EFFECTIVENESS OF VIDEO ASSISTED TEACHING PROGRAMME ON KNOWLEDGE AND SKILL REGARDING SUCCESSFUL VENTILATION WITH I-GEL AND LARYNGEAL MASK AIRWAY AMONG PARAMEDICAL STUDENTS AT SELECTED COLLEGES, SALEM

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CERTIFICATE

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Gratitude is the memory of the heart.

Jean Baptiste Massieu

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LIST OF ABBREVIATIONS

LMA - Laryngeal Mask Airway

CPR - Cardiopulmonary Resuscitation

ERC - European Resuscitation Council

ABSTRACT

A quantitative evaluative study was conducted to determine the effectiveness of the video assisted teaching programme on Knowledge and Skill regarding Successful Ventilation with I-gel and Laryngeal Mask Airway among Paramedical Students at selected colleges, Salem. One group (pre experimental) pretest posttest design was used. Totally 50 samples were selected through non probability convenience sampling technique. All the samples were taken from Sri Gokulam College of allied health science and Vinayaka mission's college of paramedical science, Salem. The knowledge and skill was assessed through the structured questionnaire and an observational checklist respectively. After the pretest the Video Assisted Teaching Programme was administered to the paramedical students for 30min. The posttest was done on the eighth day, after the intervention, to assess the knowledge and skill.

The findings revealed that, among the paramedical students 23(46%) were aged between 20-22 yrs, 34(68%) were males and 31(62%) were Hindus. Regarding education, 31(62%) were studying Bachelor of Science in critical care and 40(80%) had previous knowledge regarding airway management, in which 22(48%) gained knowledge by attending classes. In the pretest knowledge and skill scores, 34(68%) had inadequate knowledge, 16(32%) had moderately adequate knowledge, none of them had adequate knowledge regarding skill, 15(30%) had average skill and 35(70%) had poor skill and none of them had good skill. In the posttest 42(84%) had adequate knowledge, 8(16%) had moderately adequate knowledge, 7(14%) had average skill and 43(86%) had good skill. The pretest mean score for knowledge and skill were 14.94±2.99 and 14.9±1.72 respectively where the posttest mean score for knowledge and skill were 23.28±2.50 and 25.62±2.31 respectively. The't' value for the knowledge score was 15.74 and the skill score was 30.63, which is significant at $p \leq 0.05$ level hence the hypothesis (H_1) was retained. The 'r' value for pretest score on knowledge and skill was 0.41 and posttest score on knowledge and skill was 0.65, which is significant at $p \leq 0.05$ level hence the hypothesis (H_2) was retained. The obtained χ^2 values for the selected demographic values were not significant at $p \leq 0.05$ level. So the stated hypothesis (H3) was rejected. The study concludes that the Video Assisted Teaching Programme was effective among paramedical students, to improve the knowledge and skill towards successful ventilation with I-gel and laryngeal mask airway.

CHAPTER – I

INTRODUCTION

"When you can't breathe, nothing else matter"

- American Lung Association

The pulmonary airway comprises those parts of the respiratory system through which air flows, conceptually beginning (on inhalation from the external environment) at the nose, mouth, and terminating in the alveoli. It is generally used synonymously with respiratory tract from the mouth or nose, inhaled air passes through the pharynx into the trachea, where it separates into the left and right main bronchi at the carina, which is situated at the level of the second thoracic vertebra. The main bronchi then branch into large bronchioles, one for each lobe of the lung. Within the lobes, the bronchioles further subdivide some twenty times, ending in clusters of alveoli. (**Gray Anatomy, 2005)**

Breathing is the process that moves air in and out of the lungs or oxygen through the airway. Breathing is only one process that delivers oxygen to where it is needed in the body and removes carbon dioxide. It also involves the movement of blood for passive diffusion of gases between the alveolar gas and the blood in lung capillaries. **(Frank H Netter Anatomy, 2007)**

Whenever there is any blockage in the airway it is called airway obstruction. It may partially or totally prevent air from getting into lungs. Some airway obstructions are life-threatening emergencies. They require immediate medical attention to prevent death. Upper airway obstructions occur in the area from nose and lips to larynx. Lower airway obstructions occur between larynx and the narrow passageways of lungs. Partial airway obstructions allow some air to pass, still breathing with a partial airway obstruction will be difficult. Complete airway obstructions do not allow any

air to pass and hence cannot breathe. Acute airway obstructions are blockages that occur quickly. An example of an acute airway obstruction is choking on obstruction of a foreign object. For example, emphysema can cause a chronic airway obstruction. If there is any obstruction there is the need for ventilation. Ventilation is the rate of gas enters and leaves the lungs**. (American Thoracic Society, 2007)**

Artificial ventilation, the process of supporting respiration by manual or mechanical means when normal breathing is inefficient or has stopped. If artificial ventilation is unsuccessful, the patient is repositioned and the airway is tested for the presence of an obstruction also called artificial respiration. **(Mosby's Medical Dictionary, 2009)**

Several airway obstruction management are there but establishing a secure and patent airway is the most important goal in the resuscitation of a patient with acute upper airway obstruction. A quick evaluation considering age group, history, physical examination and clinical circumstances helps to determine the site and cause of obstruction, the severity of the obstruction and the need to establish an airway urgently. In the outpatient setting the most common cause of upper airway obstruction is obstruction of the larynx with a foreign body. Heimlich maneuver is recommended for relief of the airway obstruction in adults and children one to eight years of age. A sub diaphragmatic abdominal thrust can force air from the lungs; this may be sufficient to create an artificial cough and expel a foreign body from the airway. Repeat abdominal thrusts may be needed to clear the airway. Several medical and surgical approaches are available in the management of upper airway obstruction including oropharyngeal airways, endotracheal intubation (transnasally or orally), tracheotomy, cricothyroidotomy and supraglottic airway devices**. (Phil Jevon, 2007)**

Management of the airway is of at most importance in the cardiopulmonary resuscitation (CPR) setting. Different devices and techniques, such as the endotracheal intubation and the laryngeal mask airway (LMA), have been recommended. Although standard direct laryngoscope tracheal intubation remains the preferred technique to establish advanced airway management, sufficient experience is required to gain proficiency and constant retraining is required in order to maintain the skill. The classic laryngeal mask airway (LMA) on the other hand is easy to insert and when compared to endotracheal intubation. In the pre hospital setting, airway management is often performed by paramedics under suboptimal conditions. (**Karcioglu .O, 2012)**

Paramedic intubation has been a widely practiced aspect of pre hospital cardiac arrest care for the past 20 years. However, survival after pre hospital cardiac arrest may be improved by reducing paramedic intubation time. This intrigued us to investigate whether minimally trained paramedics with no previous experience in securing the airway would be more efficient in placing LMA or in intubating the trachea with direct laryngoscope using a manikin study. Due to the fact that the latest European Resuscitation Council (ERC) Guidelines emphasize minimizing interruptions to chest compressions, in order to maximize coronary and cerebral perfusion pressure, the study was designed using 2 manikin scenarios: non-CPR and CPR with uninterrupted chest compressions. The primary endpoints in this study were success rate and time for LMA insertion or endotracheal intubation. **(Eisenburger .P, 2012)**

Need for the Study:

A randomized study was conducted among 152 female patients (19-70yrs) find out the ease of insertion using a LMA ProSeal and the I-gel in non-paralyzed,

anesthetized female subjects. Insertion success rate, insertion time were measured. The results shows that first attempt and overall insertion success were similar (LMA ProSeal, 75/76 (99%) and 76/76 (100%); I-gel 73/75 (97%) and 75 (100%), respectively. Insertion times were similar (LMA ProSeal, 40 (16) s; I-gel 43 (21) s). The findings of the study reveals that insertion of the LMA ProSeal and I-gel is similarly easy, but the LMA ProSeal forms a more effective seal for ventilation. **(Gasteiger L, et.al, 2010)**

The supraglottic airway device is a novel device that fills the gap in airway management between tracheal intubation and use of face mask. Dr Archie Brain, a British anaesthesiologist, first time introduced laryngeal mask airway designed to be positioned around the laryngeal inlet that could overcome the complications associated with endotracheal intubation. Careful observations and clinical experience have led to several refinements of Brain's original prototype leading to development of newer supraglottic airway devices with better features for airway maintenance. **(Taylor R.S, 2011)**

Laryngeal mask airway is a supraglottic airway device with an inflatable cuff forming a low pressure seal around the laryngeal inlet and permitting ventilation. I-gel is a new supraglottic airway device with a non-inflatable cuff, composed of soft gel like, transparent thermoplastic elastomer. It is designed to achieve a mirror impression of pharyngeal and laryngeal structures and to provide as per laryngeal seal without cuff inflation. A drain tube is placed lateral to the airway tube, which allows insertion of gastric tube. **(Bein B, Scholz J, 2005)**

Supraglottic airway devices are now widely used for surgery requiring general anesthesia, so as to avoid the complications associated with tracheal intubation. LMA-classic is the gold standard for supraglottic airway devices and in use since 1981.I-gel.

Being the newer supraglottic airway device has potential advantages including easier insertion, minimal risk of tissue compression, stability after insertion and an inbuilt bite block.Hence, the researcher has decided to assess the effectiveness of a teaching programme on knowledge and skill with two supraglottic airway devices I-gel and Laryngeal Mask Airway.

Statement of Problem:

A Study to Assess the Effectiveness of Video Assisted Teaching Programme on Knowledge and Skill regarding Successful Ventilation with I-gel and Laryngeal Mask Airway among Paramedical Students at selected Colleges, Salem.

Objectives:

1. To assess the knowledge and skill regarding successful ventilation with I-gel and laryngeal mask airway among paramedical students.
2. To evaluate the effectiveness of video assisted teaching programme on knowledge and skill regarding successful ventilation with I-gel and laryngeal mask airway among the paramedical students.
3. To determine the relationship between knowledge and skill regarding successful ventilation with I-gel and laryngeal mask airway among the paramedical students.
4. To associate the pretest score on knowledge and skill regarding successful ventilation with I-gel and laryngeal mask airway among the paramedical students and their selected demographic variables.

Operational definitions:

Effectiveness:

Its refers to the significant improvement in the post test scores of knowledge and skill regarding I-gel and Laryngeal Mask Airway after the administration of video assisted teaching programme.

Video Assisted Teaching Programme:

It is a systematically planned teaching programme on I-gel and Laryngeal Mask Airway and imparted through video film based lecture cum demonstration.

Knowledge:

It is the correct responses given by the paramedical students on I-gel and Laryngeal Mask airway and which can be assessed through structured questionnaires.

Skill:

It is the correct technique on performing of I-gel and Laryngeal Mask Airway done on manikin which can be assessed through the observational check list.

Successful ventilation:

It refers to the ability of the paramedical students to intubate and ventilate without any complications and it is assessed by checklist.

I-Gel:

I-gel has a soft, gel like non inflatable cuff, designed to provide an anatomical impression fit over the laryngeal inlet in delivering ventilation. It has potential advantages including easier insertion, minimal risk of tissue compression, stability after insertion and an inbuilt bite block.

Laryngeal Mask Airway:

Laryngeal Mask Airway is a device for maintaining a patent airway without tracheal intubation, consisting of a tube connected to an oval inflatable cuff that seals the larynx.

Paramedic Students:

Students who are studying in recognized institutions as Bachelor of Science in Critical Care and Physician assistant.

Assumptions:

- ❖ Paramedical students may have some knowledge regarding successful ventilation with I-gel and Laryngeal Mask Airway.
- ❖ Paramedical students may lack skill regarding successful ventilation with I-gel and Laryngeal Mask Airway.
- ❖ Video assisted teaching programme may be one of the best methods to improve the knowledge regarding successful ventilation with I-gel and Laryngeal Mask Airway of the paramedical students.

Hypotheses:

H_1: There will be a significant difference between pretest and post test score on knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students at $p \leq 0.05$level.

H_2: There will be a significant relationship between knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students at $p \leq 0.05$ level

H_3: There will be a significant association between the pretest score on knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students and their selected demographic variables at $p \leq 0.05$ level.

Delimitations:

- The study is limited to only 60 samples.
- The data collection period is limited to four weeks.
- The study is limited to the paramedical students of the selected areas of Salem.

Projected Outcomes:

- Study will make standardized airway protocol for paramedical students to reviving cardiac arrest and respiratory arrest patients.
- Study will improve the knowledge and skill regarding airway management among the paramedical students.
- Study will enable the paramedical students to perform the life saving procedures for the unconscious patients before reaching the hospitals.

Conceptual Framework:

Conceptual models are made up of concepts which are words describing the mental images of phenomena and proportions which are statements about concepts. It provides a schematic representation of some relationship among phenomena.

The present study is based on the concept of application of video assisted teaching programme to the paramedical students. The investigator adopted Wiedenbach's Helping Nursing Art Theory (1964). This theory, describes the desired situation and way to be attained. It directs action towards the explicit goals. This theory has three factors,

- ❖ Central purpose
- ❖ Prescription
- ❖ Reality

Central Purpose:

It refers to what a nurse wants to accomplish. It is an overall goal towards which a nurse strives. The central purpose of this study is to improve the knowledge and skill regarding successful ventilation with I-gel and laryngeal mask airway among paramedical students.

Prescription:

It refers to the plan of action for the patient. It will specify the nature of the action that will fulfil the nurse's central purpose. The prescription of this study is the administration of the video assisted teaching programme.

Reality:

It refers to the physical, psychological, emotional and spiritual factors that come into play in situation involving the nurses. The five realities identified by Widenbach's are agent, recipient, goal, mean activities & frame work.

According to this theory, nursing practice consists of 3-steps, guiding the researcher to attain the desired objectives.

Step- I: Identifying the need for help.

Step-II: Ministering the needed help.

Step-III: Validating that the need for help was met.

Step- I: Identifying the need for help:

The first step is the identification of the knowledge and skill regarding successful ventilation with I-gel and laryngeal mask airway among paramedical students. The perception of the behaviour is done through the demographic Performa, the structured questionnaire and an observational check list.

Step -II: Ministering the needed help:

After the identification of the knowledge and practice regarding successful ventilation with I-gel and laryngeal mask airway among paramedical students, administration of the Video Assisted Teaching Programme will be taking place.

Agent : Nurse Investigator

Recipient : The Paramedical Students

Goal : To determine the effectiveness of Video Assisted Teaching Programme on knowledge and skill regarding successful ventilation with I-gel and laryngeal mask airway among Paramedical students.

Mean activities : Provision of Video Assisted Teaching Programme

Framework : Colleges of Selected area, Salem.

Step-III: Validating that the need for help was met:

This is accomplished by means of validation of the prescription. It is the state that whether the video assisted teaching programme was effective or not. It is done through the pretest and posttest assessment of the knowledge and skill by using structured questionnaire and an observational checklist. If there are no significant changes in the perceived behaviour we need to reconstruct the experience to ascertain step – I & II.

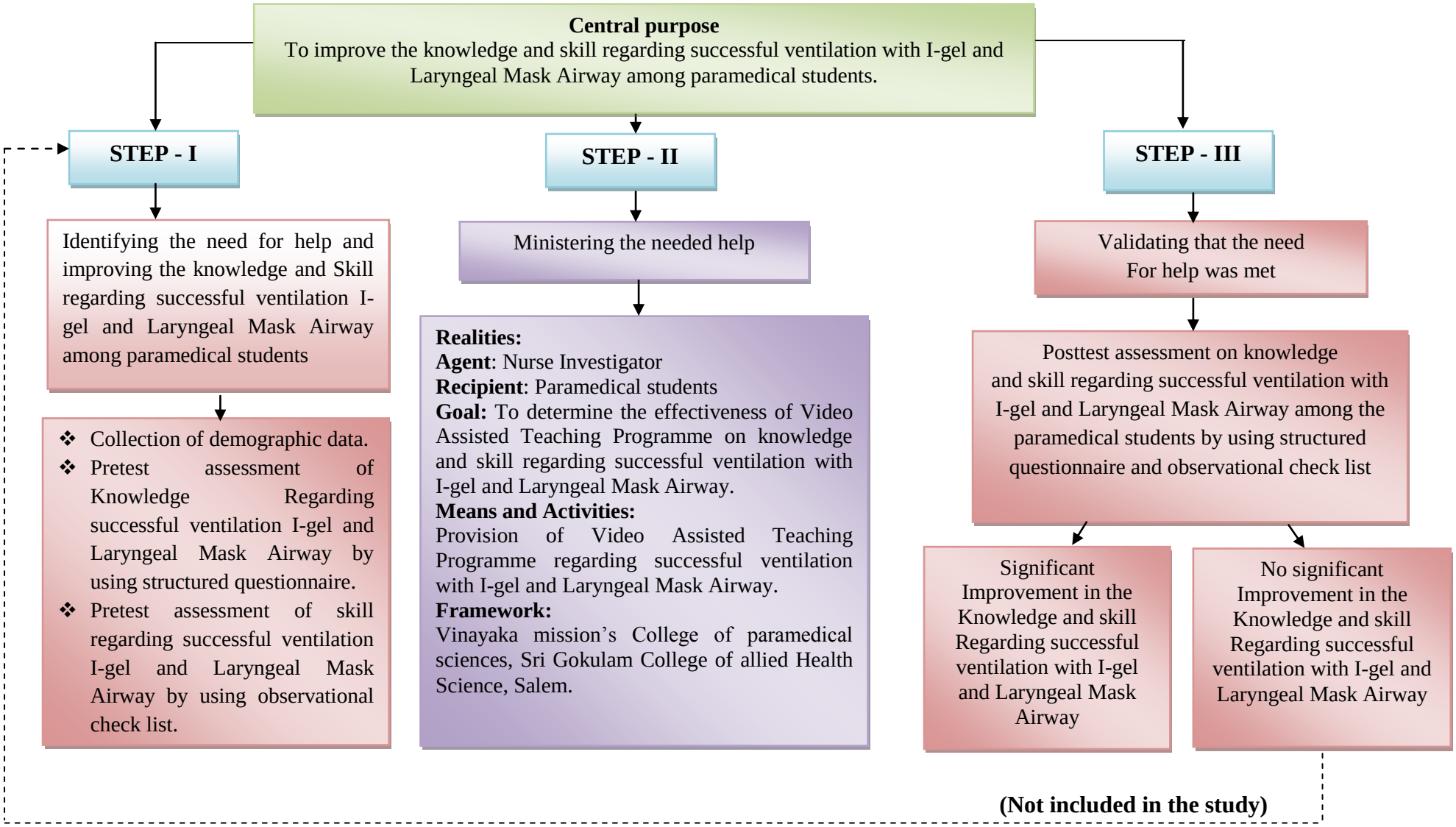


Figure -1.1: Conceptual Framework Based on Wiedenbach's Theory of Helping Art of Clinical Nursing (1964) on Effectiveness of Video Assisted Teaching Programme on Knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among the paramedical students.

Summary:

This chapter is dealt with introduction, need for the study, and statement of the problem, objectives, operational definitions, hypotheses, assumptions, delimitations, projected outcome, and conceptual framework.

CHAPTER -II

REVIEW OF LITERATURE

Literature review involves the systemic identification, location, scrutiny and summary of written material that contain information on a research problem. It provides basis for future investigations that justifies the need for the study, throws light on the feasibility of study.

This chapter has review of studies done, methodology adopted and conclusion obtained by other investigator which helps to study the problem in depth. The sources obtained are mostly from textbooks, journals and internet searches.

The available literatures are organized in following headings:-

1. Literature related to I-gel.
2. Literature related to laryngeal mask airway.
3. Literature related to I-gel and laryngeal mask airway.

1. Literature related to I-gel:

A randomized study conducted to evaluate the effectiveness of supraglottic airway device in adults with the objective to assess the successful rates of insertion, airway leak pressure, position confirmed by fibrotic laryngoscope, gastric tube placement and its complications. The data was collected from 154 adults over 12 months. The result shows that the first insertion attempt was successful in 93.5% patient and second attempt in 5.8% and hence the median time to insertion was 14(13-16) seconds and its complications arose only in 20% of patients, but the majorities were minor and gastric tube placement was successful in 90% of cases. The study concluded that the I-gel ensures a clear airway, and has potential benefit of greater airway protection with Long-term surveillance**. (Hughes C, place K., et 2012)**

A comparative study was conducted to evaluate the performance of I-gel, novel supraglottic airway in manikins and anaesthetized patients. 50 I-gels were placed in manikins and 40 in healthy anesthetized patients. The results shows that 88% (44150) were placed on the first attempt with a median insertion time in manikins and 82.5 %(33140) shows success on the first attempt and on the second attempt 15 %(6140).The study suggest that I-gel is rapidly inserted in both manikins and patients by novice uses and compares favourably to other supraglottic airways. **(Actom. N.M et.al. (2008)**

An experimental study was conducted on supraglottic airway I-gel to investigate that the cuff of I- gel can fit to laryngeal structure. The data were collected from 180 adult patients, in which 90 were assigned to the experimental group and 90 to the control group. I- gel was warmed to 37 degree Celsius before insertion in the experimental group and was in the room temperature in control group insertion time, number of attempt for successful insertion, leak pressure, leak volume were compared between 2 groups and found that 12-9 + or – 9.3sec. Insertion time was 12.9 ± 9.3 seconds in the warm group and 14.5 ± 12.3 seconds in the control group. Inspiratory pressure, leak pressure, and leak volume were not significantly different between the 2 groups, whereas leak volume had a tendency to be smaller in the experimental group. The study concluded that prewarming the I-gel to body temperature did not have any significant benefit in comparison with the I-gel at room temperature. **(Xlishyama T.etal., 2008)**

2. Review related laryngeal mask airway:

A randomized controlled trial was performed to assess the effectiveness of laryngeal mask airway among 48 post burn neck contracture patients with limited mouth opening and neck movement. The result shows that the success rate 79.2% the

laryngeal mask airway and insertion time is 23.5 seconds. Airway leak pressure difference was statistically significant laryngeal mask airway 16.9 cm H (2)0). Fibroptic view through the showed has there were fewer epiglottises down folding and better Fibroptic view of the glottis than laryngeal mask airway. Overall agreement in insertion outcome for success rate 24(8.3%) for laryngeal mask airway, success rate 5/24 (16.7%) failure in the first attempt. **(Singh J et.al,. 2011)**

A study was conducted to assess the effectiveness of laryngeal mask airway. Where brief educational session and presentation was given to the participants and 116 doctors participated in the study. They randomly allocated to insert devices in an adult manikin. Insertions were performed using a size-4 laryngeal mask airway. The objectives of the study were the success rate for each device and the duration of the insertion attempt and the second objective was the perception of ease of use with each device. The result showed that success rate was 90.5% for laryngeal mask airway in first attempt, insertion times (17.99±6.87 s,) and was related with significantly higher first attempt success rates than laryngeal mask airway in novices (90 and 48.3%, P<0.001). In this manikin setting laryngeal mask airway significantly improved success rates and insertion time. That laryngeal mask airway use resulted in high first pass success rates for novice doctors, equal to those achieved by experienced doctors. (**Stroumpoulis K, et.al., 2011)**

3. Review related I-gel and laryngeal mask airway:

A randomized controlled trial was conducted for comparing the I- gel and laryngeal mask airway tracheal tube for fibre optic guided intubating in anesthetized patients in Switzerland. A Fibroptic bronchoscope was introduced into the trachea secondary variables included time for insertion and intubation, airway leak pressure Fibroptic view and adverse events among 160 patients. The result shows that

intubation was successful at the first attempt in 76 patients (96%) using I-gel and in 71 patients (90%) using laryngeal mask airway (p=0.21).The study also found that airway leak pressure was higher for the laryngeal mask airway. The study concluded that fibre optic guided tracheal into intubation through I- gel using standard rush Magill is successful and an alternative with the laryngeal mask airway. **(Kleine Bruggency, et al 2012)**

A randomized clinical trial of the I-gel and single use laryngeal mask airway with controlled ventilation in 200 paralyzed patients in Northan Ireland. To compare the difference in the seal and peak pressure and postoperative complications in these devices when used in paralyzed patients under controlled ventilation and also the airways. The result showed that in first time insertions were 85.6% (I-gel) and 82% (Aura Once) with overall success rates 96.3% (I-gel) and 94.2%, Average insertion times were 11.0s (I-gel) and 11.6s. Seal pressures were 30.4cm H_2O, (I-gel) and 27.8cm H_2O. Peak pressures were 15.3cm H_2O (I-gel) and 15.6cm H_2O (p=0.57), Traumatic insertion occurred in 5.8% of I-gel and 2% of insertions. The study concluded that the overall incidence of postoperative complications was low, with the I-gel causing less sore throat. The study suggests that both devices provided effective seals for ventilation under positive pressure**. (Donaldson .W et.al., 2012)**

A prospective randomized study was conducted in selected hospitals in Canada, with the objective to compare the success rate of blind tracheal intubation using the I-gel and laryngeal mask airway 160 patients requiring general anaesthesia and airway management were randomized to tracheal intubation using the I-gel or the LMA in that 80 patients were recruited in each study group . After induction with general anaesthesia, the allocated device was inserted and adequate lung ventilation was confirmed. Successful tracheal intubation was obtained on the first attempt in

69% of patients with the I-gel and 74% of patients with the laryngeal mask airway. The overall intubation success rate was lower using the I-gel than using the laryngeal mask airway Fastrach (73% and 91%; 7% to 31%, P < 0.0001). The study concluded that laryngeal mask airway Fastrach yield a higher overall intubation success rate. **(Halwagi AE, et.al., 2012)**

A randomized study was conducted to compare the insertion success rate and ventilation profile between the laryngeal mask airway Supreme and the I-gel after a short lecture and manikin training; airway novices were randomly allocated to insert either the laryngeal mask airway Supreme or the I-gel into 80 patients undergoing breast surgery. The results shows that first-time insertion success rate was significantly higher for the laryngeal mask airway Supreme than the I-gel (30/39 (77%) and 22/41 (54%). Mean leak pressure (29 and 23cm H_2O), (785 and 654, p = 0.001) were significantly greater with the laryngeal mask airway Supreme than with the I-gel respectively. It was found better first time success rate, fewer failures, and a better seal with the laryngeal mask airway Supreme compared with the I-gel, indicating that the laryngeal mask airway Supreme may be preferable for emergency airway use by novices. **(Ragazzi R**, **et.al., 2012)**

A study was conducted in selected hospitals at Espana to evaluate the success rate of blind intubations using two supraglottic devices among 80 patients. After positioning as attempt was made to introduce an endotracheal tube through the device, and adequate ventilation was evaluated as well as the grade of fibro bronchoscope viewed for success of intubation. The glottis view was better with I-gel (77.78% and 68.42%) at the second attempt, but not on the first. A higher percentage of intubations were achieved with the Fastrach laryngeal mask airway (70% and 40%; P=.013). The incidence of throat pain was similar with both devices, but post-operative dysphonic

was more frequent with I-gel (20% and 0). The study concluded that both device were equally effective in achieving ventilation, laryngeal mask airway enabled a higher number of intubations to be made than I-gel with a lower incidence of post-operative dysphonic**.(Sastre J A, et.al, (2011)**

A prospective study was conducted among 25 participants to evaluate the success rate of blind intubation and fiberscope-guided tracheal intubation (through the intubating laryngeal mask airway and the I-gel supraglottic airway) on three different airway manikins. 25 anesthetists performed three intubations with each method on each of three manikins. The results showed that the success rate of the fiberscope-guided technique was significantly higher than blind attempts with both devices. For Fibroptic techniques, there was no difference found between the laryngeal mask airway and I-gel. All blind techniques were significantly more successful in the laryngeal mask airway group compared to the I-gel. The study suggests that in manikins Fibroptic intubation through both laryngeal mask airway and I-gel is a highly successful technique and blind intubation through the I-gel showed a low success rate and should not be attempted. **(Michael, et.al., 2009)**

CHAPTER - III

RESEARCH METHODOLOGY

The methodology of research indicates general pattern of organizing the procedure for gathering valid and reliable data for the purpose of investigation. **(Polit D. F Hungler, 2003)**

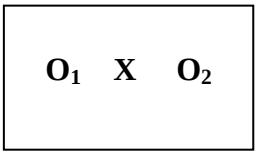
This chapter describes the methodology adopted to evaluate the effectiveness of video assisted teaching programme regarding successful ventilation with I-gel and laryngeal mask airway. The methodology includes research approach, research design, and description of setting, description of variables, population, sampling technique and sample size, criteria for sample selection, description of tool, validity and reliability of the tool, pilot study, data collection procedures and plan for data analysis.

Research Approach:

Quantitative evaluative research approach was adopted for this study

Research Design:

The research design adopted for this study was one group pretest-posttest design (pre-experimental design), which was used to measure the effectiveness of video assisted teaching programme regarding successful ventilation with I-gel and laryngeal mask airway. The design can be represented as follows:



O_1= Assessment of pretest knowledge and skill regarding successful ventilation with I-gel and laryngeal mask airway among the paramedical students.

X = Video assisted teaching programme on I-gel and laryngeal mask airway , followed by the demonstration of successful ventilation with I-gel and laryngeal mask airway.

O_2= Assessment of posttest knowledge and skill regarding successful ventilation with I-gel and laryngeal mask airway among the paramedical students.

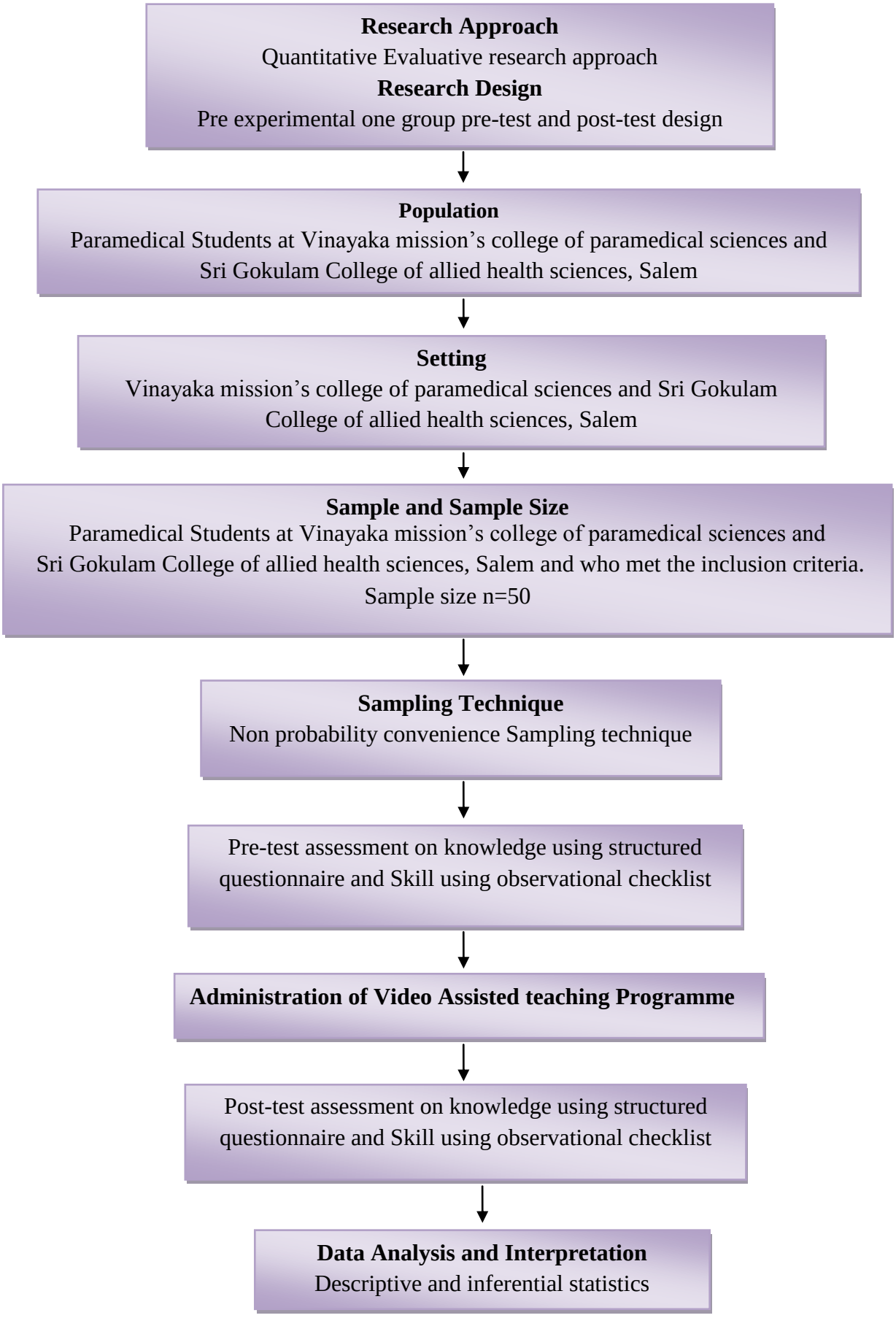


Fig – 2: Schematic Representation of Research Methodology

Population:

The entire set of individuals or objects having some common characteristics. **(Polit and Beck, 2004)**

The Population of this study comprised of Paramedical Students of selected colleges, Salem.

Description of Setting:

The physical location and conditions in which data collection takes place in a study. **(Polit and Cheryl, 2004)**

The study was conducted at Vinayaka mission's college of paramedical sciences and Sri Gokulam College of allied health sciences, Salem. Sri Gokulam College of Allied Health Sciences College is situated 10 km away from Sri Gokulam College of Nursing and Vinayaka Mission's college of paramedical sciences is situated 5 km away from Sri Gokulam College of nursing.

Sampling:

Sampling is the process of selecting a portion of population to represent the entire population. Sample is a subset of population selected to participate in the study **(Polit and beck, 2004)**

The sample of this study comprises of paramedical students, who are studying at Sri Gokulam college of Allied Health Sciences recognized by the DR.M.G.R medical university and Vinayaka Mission's College of Paramedical Sciences recognized by Vinayaka mission's deemed university who fulfilled the sampling criteria.

Sample size:

The investigator selected 50 Paramedical Students at Vinayaka Mission's College of paramedical Sciences and Sri Gokulam College of Allied Health Science Salem

Sampling Technique:

The investigator selected samples by using non probability convenience sampling technique and those who fulfill the inclusion criteria.

Criteria for Sample Selection:

Inclusion criteria:

- Students studying at recognized institution with under graduate course of Bachelor of Science in critical care and physician assistant.

Exclusion criteria:

1. Paramedical students who were not willing to participate in the study
2. Paramedical students who were absent during the data collection period

Variables:

Independent variable:

- Video assisted teaching programme on I-gel and laryngeal mask airway followed by demonstration.

Dependent variable:

- Knowledge and skill regarding successful ventilation with I-gel and laryngeal mask airway.

Description of tool:

Section- A: Demographic variables:

This section consists of demographic variables like age, gender, religion, category of course of study and previous knowledge regarding airway management.

Section – B: Assessment of knowledge regarding I-gel and laryngeal mask airway:

Structured questionnaire was used to assess the knowledge. The questions were under the subheadings related to general information, I-gel and laryngeal mask airway.

Scoring procedure:

There were 30 statements, the correct answer was scored one and each wrong answer was scored as zero.

Table.3.1: Scoring procedure on knowledge regarding successful ventilation with I-gel and laryngeal mask airway.

Knowledge	Scores	Percentages
Adequate Knowledge	23-30	Above 75%
Moderately Adequate knowledge	16-22	50-75%
Inadequate knowledge	1-15	Below 50%

Section - C: Check list to assess the skill in I-gel intubation and laryngeal mask airway:

Checklist:

There were 30 items related to I-gel and laryngeal mask airway intubation procedure, those who had performed the steps correctly scored as one and those who did not perform scored as zero.

Table.3.2: Scoring key for observation checklist.

Skill	Scores	Percentages
Good skill	23-30	Above75%
Average skill	16-22	50-75%
Poor skill	1-15	Below 50%

Content Validity and Reliability:

Validity:

Validity of the tool was established with the consultations of the guide and experts. The tool validated by five experts in the field of nursing and one from the field of medicine. The tools were found adequate and minor suggestions given by the experts incorporated.

Reliability:

Test – retest method was used to find out the reliability of the structured questionnaire. r' value was 0.92. it was found to be reliable. The reliability of the observational checklist was checked and established by using test -retest method, the r' value was 0.96. This showed that the tool was reliable and was considered for preceding the main study.

Pilot Study:

Pilot study was conducted from 22.07.2013 to 27.07.2013 at Vinayaka Mission's College of Paramedical Sciences, Salem to find out feasibility of the study. A formal permission was obtained from the principal of the institution. Five paramedical students were selected by convenience sampling technique. The pretest knowledge and skill were assessed by using structured questionnaire and observational checklist respectively on the first day. A Video assisted teaching programme was given on the same day with the duration of thirty minutes along with the demonstration of ventilation with I-gel and laryngeal mask airway using a manikin after the pretest. The return demonstration was done by the paramedical students for seven successive days. On the 8^{th} day posttest was done to assess the knowledge and skill regarding successful ventilation with I-gel and laryngeal mask airway by using the same tool. The collected data were analyzed by using both descriptive and

inferential statistics. The pilot study revealed that the tool was found to be appropriate and feasible to conduct the main study.

Method of Data Collection:

Ethical consideration:

The data were collected after obtaining prior permission from the principal's of Sri Gokulam College of allied health science, Vinayaka Mission's College of Paramedical Sciences to conduct the study and oral consent was obtained from the paramedical students. The paramedical students were assured about the confidentiality of their responses.

Data Collection Procedure:

The data collection period was from 29th July 2013 to 27th August 2013. The Investigator carried out the study at Sri Gokulam College of allied health science and Vinayaka Mission's College of Paramedical Sciences, Salem. On the first day, the purpose of the study was explained and oral consent was obtained from the paramedical students. The pre test knowledge regarding successful ventilation with I-gel and laryngeal mask airway was assessed by structured questionnaire and skill was assessed by using observational checklist. A Video Assisted Teaching Programme was given on the same day with the duration of thirty minutes followed by the demonstration of I-gel and laryngeal mask airway intubation procedure with the use of a manikin by the researcher. After the demonstration the paramedical students performed the return demonstration on the I-gel and laryngeal mask airway intubation procedure by using a manikin for seven successive days. The posttest was conducted on the 8th day by administering the same structured questionnaire and observational checklist to assess the knowledge and skill of the paramedical students. The collected data were analyzed by using descriptive and inferential statistics.

Plan for Data Analysis:

Descriptive statistics such as frequency percentage, mean, and SD were used to describe the demographic variables, to assess the knowledge and skill in pretest and Posttest. Inferential statistics such as paired‘t’ test was used to analyze the effectiveness between pre and posttest. The relationship between the knowledge and skill was found by Carl Pearson correlation method and Chi-square test was used to find the association with the selected demographic variables.

Summary:

This chapter describes the research methodology which includes research approach, research design, description of the setting, description of variables, population, sampling technique and sampling size, criteria for sample selection, description of the tool, content validity and reliability of the tool, data collection procedure, pilot study and data analysis method.

CHAPTER - IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with analysis and interpretation of data collected to evaluate the effectiveness of video assisted teaching programme regarding successful ventilation with the I-gel and Laryngeal mask Airway among the paramedical students. The purpose of the analysis is to reduce the data as manageable and interpretable form, so that the research problem can be suited and tested. The collected data are tabulated, organized and analyzed by using descriptive and inferential statistics.

Section–A:

Distribution of paramedical students according to their selected demographic variables.

Section-B:

a) Distribution of paramedical students according to pretest scores on knowledge regarding successful ventilation with I-gel and Laryngeal Mask Airway.

b) Distribution of paramedical students according to pretest scores on skill regarding successful ventilation with I-gel and Laryngeal Mask Airway.

Section-C:

a) Distribution of paramedical students according to posttest scores on knowledge regarding successful ventilation with I-gel and Laryngeal Mask Airway.

b) Distribution of paramedical students according to posttest scores on skill regarding successful ventilation with I-gel and Laryngeal Mask Airway.

c) Comparison between the pretest and posttest scores on knowledge regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students.

d) Comparison between the pretest and posttest scores on skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students.

e) Area wise comparison between the pretest and the posttest scores on knowledge regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students.

f) Area wise comparison between the pretest and the posttest scores on skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students.

g) Comparison between the pretest and the posttest scores on knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students.

Section-D:

a) Effectiveness of video assisted teaching programme on knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students.

b) Relationship between pretest and posttest scores on knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students.

c) Association between the pretest scores on knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students and their selected demographic variables.

Section A

Distribution of paramedical students according to their demographic variables.

Table 4.1:

The frequency and percentage distribution of paramedical students according to their selected demographic variables.

n=50

S.No	Demographic variables	f	%
1	Age in years		
	a) 17-19	22	44
	b) 20-22	23	46
	c) 23-25	5	10
2	Gender		
	a) Male	34	68
	b) Female	16	32
3	Religion		
	a) Hindu	31	62
	b) Muslim	12	20
	c) Christian	7	18
	d) Any other	0	0
4	Category of course of study		
	a) B.Sc Critical care	31	62
	b) B.Sc physician assistant	19	38
5	Previous knowledge		
	a) Yes	40	80
	b) No	10	20

6	If yes how did you obtain information		
	a) By attending classes	22	48
	b) By attending airway management courses	7	16
	c) Through television	9	22
	d) Through internet	2	14

Table-4.1

Table 4.1 describes that distribution of paramedical students according to their demographic variables. According to their age most of the paramedical students, 22(44%) are in the age group of 17-19 years, 23(46%) are aged between 20-22 years and 5(10%) are aged between 23-25 years. Among 50 paramedical students according to their gender, majority of the paramedical students 34(68%) are male and 16(32%) of them are female.

Among 50 paramedical students according to their religion, majority of the paramedical students 31(62%) are Hindus and 12(20%) of them are Muslim. 7(18%) paramedical student is Christian and none of the paramedical students belong to other religion category. Paramedical students according to their category of course of study, 31(62%) of them studying in Bachelor of Science in Critical Care, 19(38%) of them studying in Bachelor of Science in Physician Assistant.

Paramedical students according to their previous knowledge regarding airway management, more than half of the paramedical students 40(80%) has previous knowledge regarding airway management and 10(20%) of paramedical students do not have previous knowledge regarding airway management.

Paramedical students according to their previous knowledge regarding airway management, among 40 paramedical students, who have previous knowledge regarding airway management, more than half of them 22(48%) have gained knowledge by attending classes, 7(16%) have gained knowledge by attending airway management classes, 9(22%) have gained knowledge through television, 2(14%) of them have gained knowledge through internet.

Section-B

a) Distribution of paramedical students according to pretest scores on knowledge regarding successful ventilation with I-gel and Laryngeal Mask Airway.

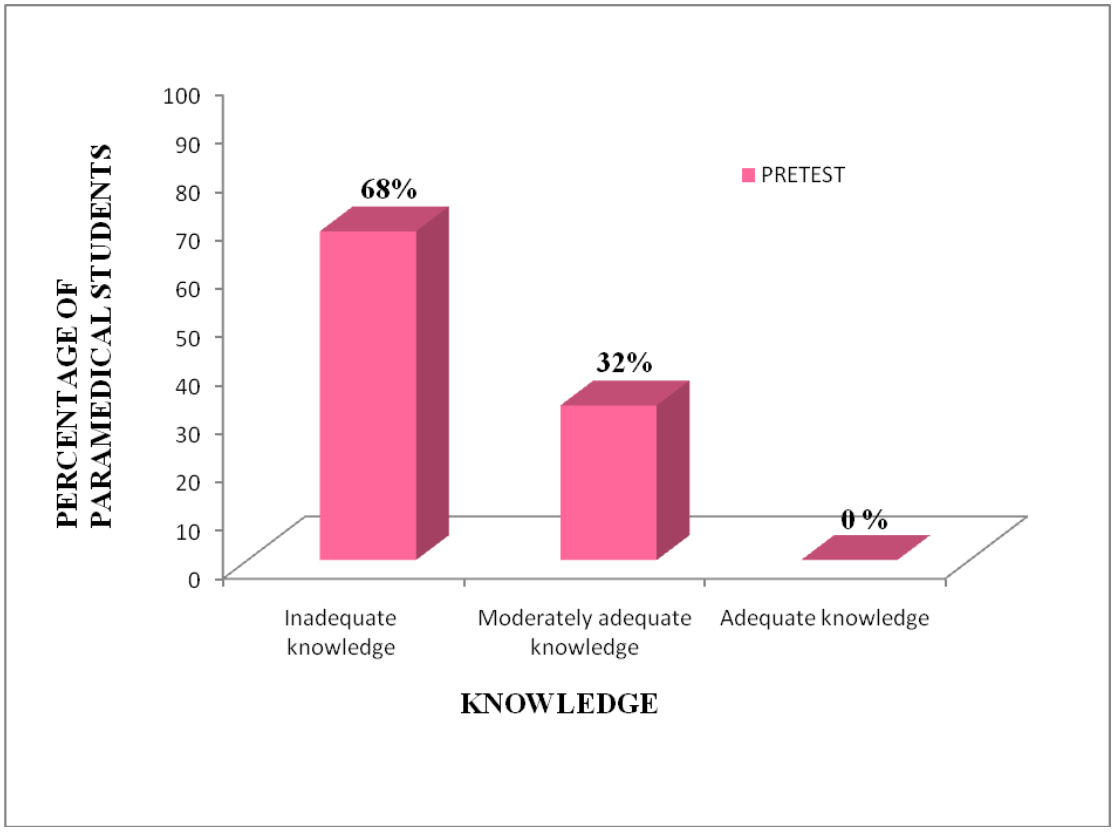


Figure-4.1: Percentage distribution of paramedical students according to pretest scores on knowledge regarding successful ventilation with I-gel and Laryngeal Mask Airway.

The above bar diagram shows that 34(68%) paramedical students have inadequate knowledge, 16(32%) paramedical students have moderately adequate knowledge and none of them have adequate knowledge regarding successful ventilation with I-gel and Laryngeal Mask Airway in their pretest.

b) Distribution of paramedical students according to pretest scores on skill regarding successful ventilation with I-gel and Laryngeal Mask Airway.

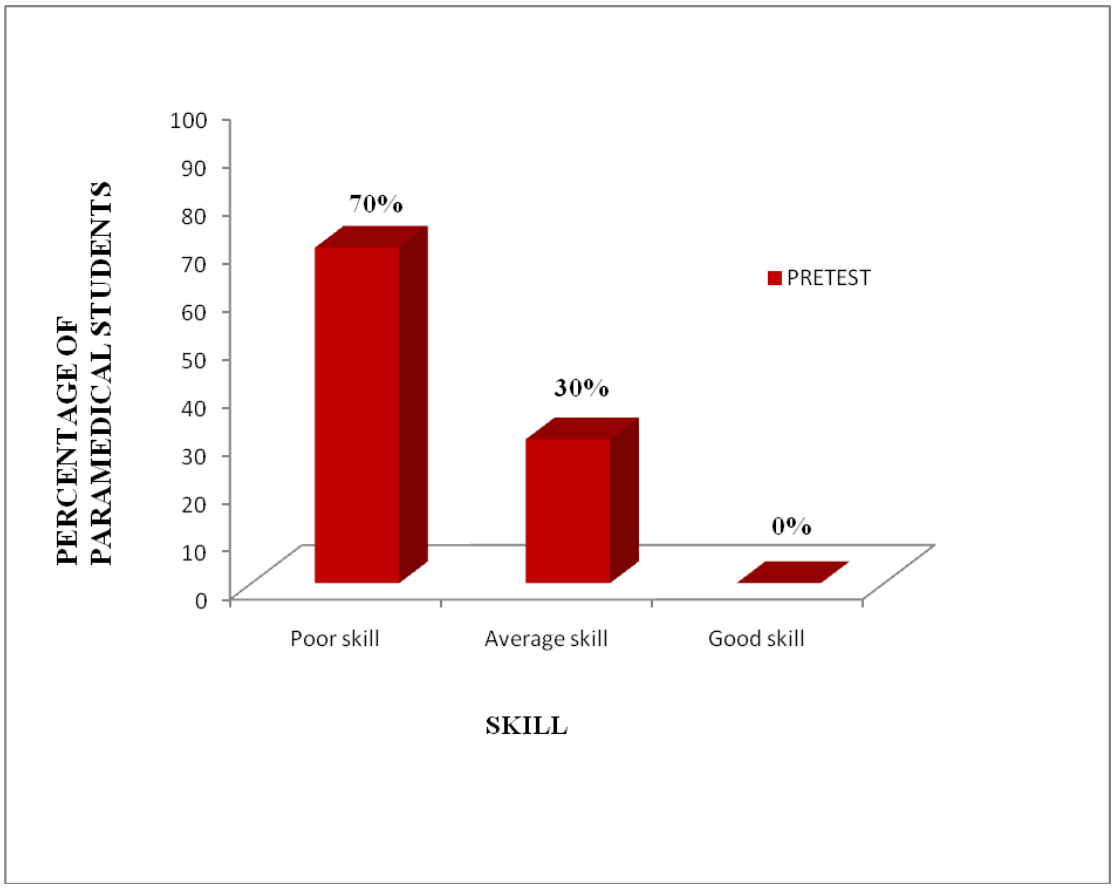


Figure-4.2: Percentage distribution of paramedical students according to pretest scores on skill regarding successful ventilation with I-gel and Laryngeal Mask Airway.

The above bar diagram shows, among 50 paramedical students none of the paramedical students have good skill, 15(30%) paramedical students have average skill and 35(70%) of them have poor skill regarding successful ventilation with I-gel and Laryngeal Mask Airway in their pretest.

Section: C

a) Distribution of paramedical students according to posttest scores on knowledge regarding successful ventilation with I-gel and Laryngeal Mask Airway.

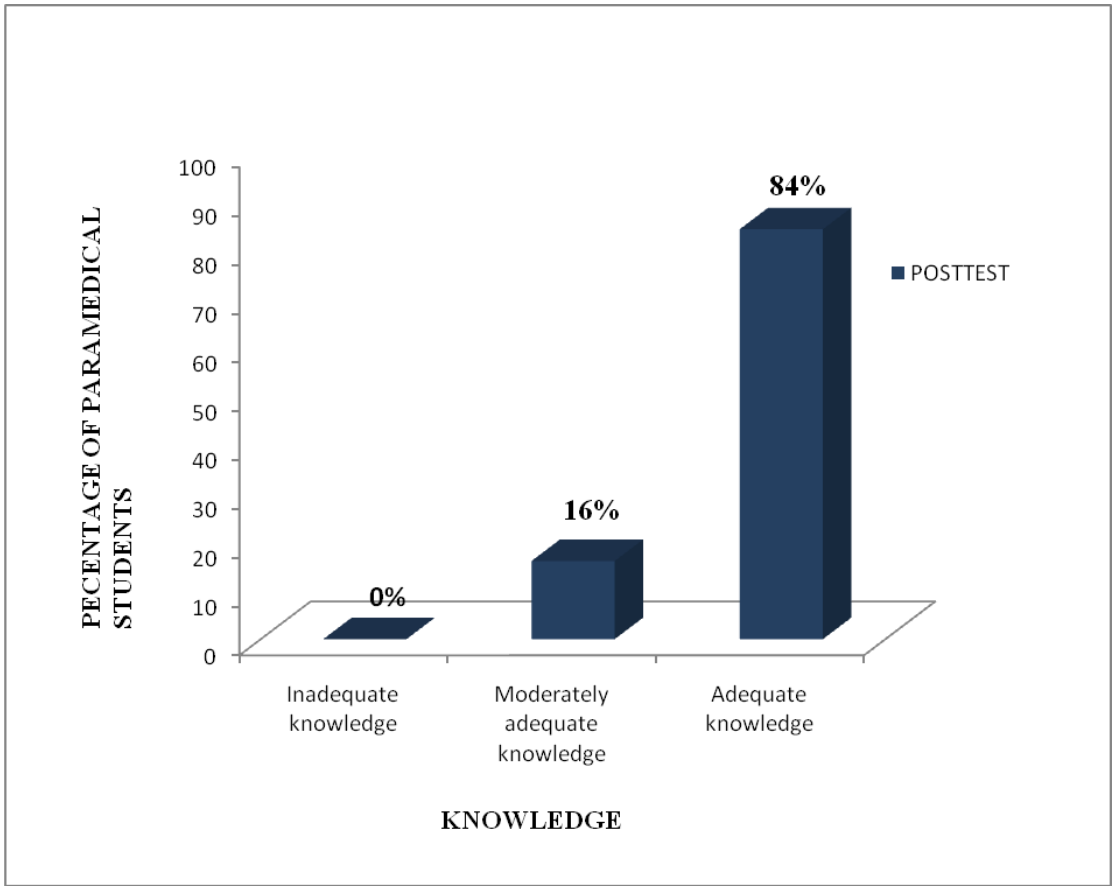


Figure-4.3: Percentage distribution of paramedical students according to posttest scores on knowledge regarding successful ventilation with I-gel and Laryngeal Mask Airway.

The above bar diagram shows that 42(84%) paramedical students have adequate knowledge and 8(16%) of them have moderately adequate knowledge regarding I-gel and Laryngeal Mask Airway. None of them have inadequate knowledge regarding successful ventilation with I-gel and Laryngeal Mask Airway in their posttest.

b) Distribution of paramedical students according to posttest scores on skill regarding successful ventilation with I-gel and Laryngeal Mask Airway.

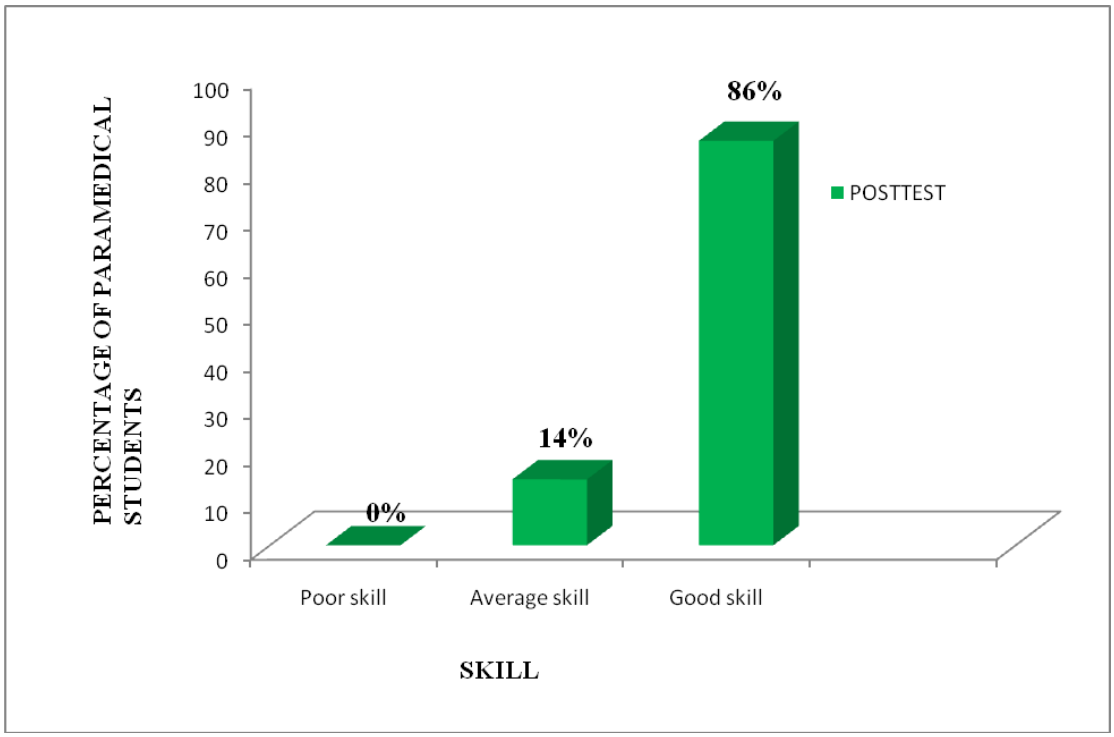


Figure-4.4: Percentage distribution of paramedical students according to posttest scores on skill regarding successful ventilation with I-gel and Laryngeal Mask Airway.

The above bar diagram shows, among 50 paramedical students none of them have poor skill, 7(14%) of them have average skill 43(86%) of them have good skill regarding successful ventilation with I-gel and Laryngeal Mask Airway in their posttest.

c) Comparison between the pretest and posttest scores on knowledge regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students.

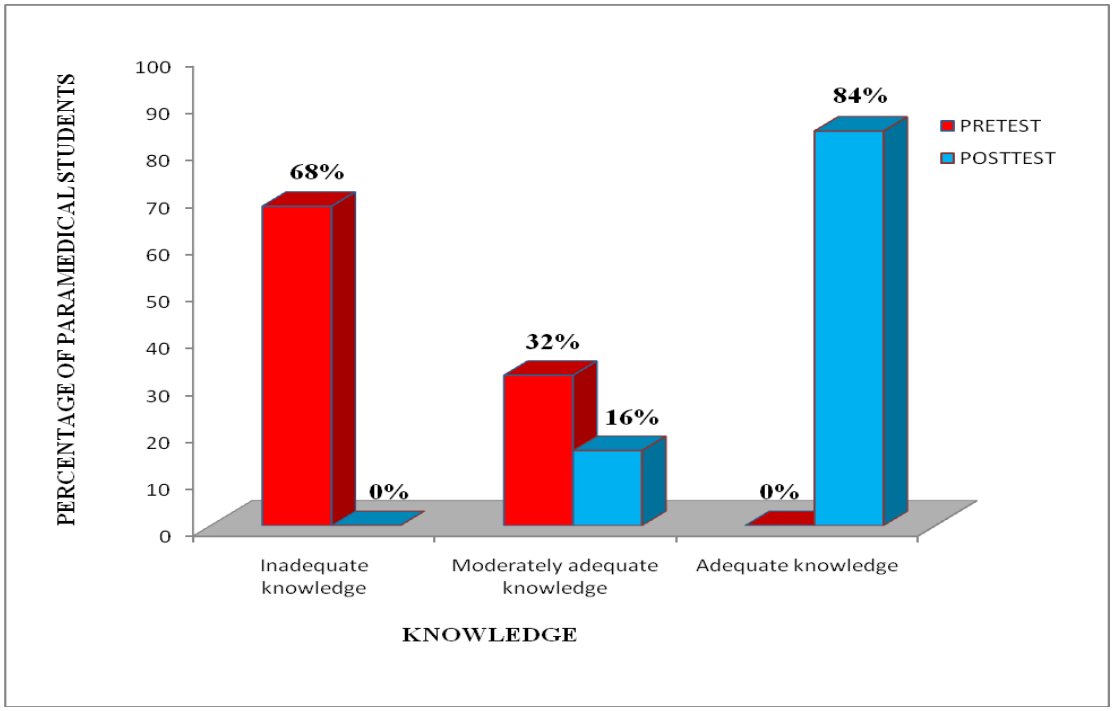


Figure: 4.5 Percentage distributions according to their pretest and posttest scores on knowledge regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students

The above bar diagram shows that 34(68%) paramedical students have inadequate knowledge, 16(32%) paramedical students have moderately adequate knowledge and none of them have adequate knowledge regarding successful ventilation with I-gel and Laryngeal Mask Airway in their pretest,

Where as in post test, 42(84%) paramedical students have adequate knowledge and 8(16%) of them have moderately adequate knowledge, none of them have inadequate knowledge regarding successful ventilation with I-gel and Laryngeal Mask Airway when compared with pretest. Hence it highlights that there is a significant improvement in the knowledge regarding successful ventilation with I-gel and Laryngeal Mask Airway is improved compared to pre test.

d) Comparison between the pretest and posttest scores on skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students.

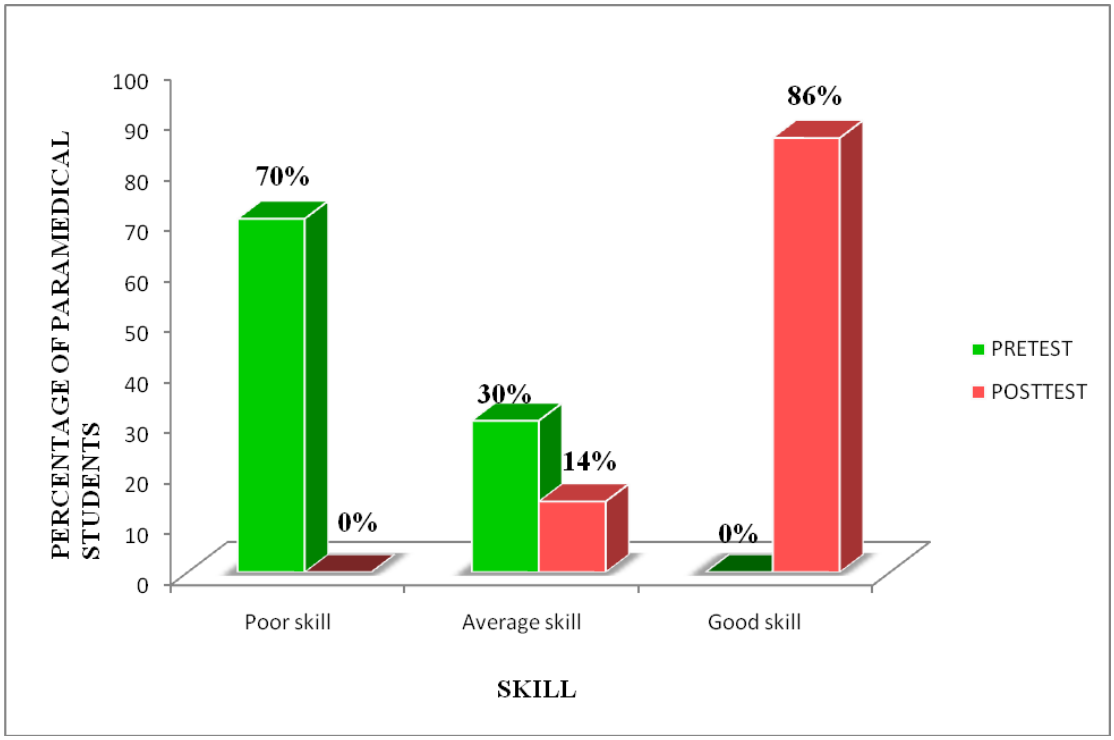


Figure: 4.6 Percentage distributions according to their pretest and posttest scores on skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students.

The above bar diagram shows, among 50 paramedical students none of the paramedical students have good skill, 15(30%) paramedical students have average skill and 35(70%) of them have poor skill regarding successful ventilation with I-gel and Laryngeal Mask Airway in their pretest. Where as in the posttest, none of them have poor skill, 7(14%) of them has average skill 43(86%) of them have good skill regarding successful ventilation with I-gel and Laryngeal Mask Airway in their posttest and compared with posttest.

Hence it highlights that there is a significant improvement in the skill regarding successful ventilation with I-gel and Laryngeal Mask Airway was improved in the posttest, when compared to pre test.

e) Area wise comparison between the pretest and the posttest scores on knowledge regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students.

Table – 4.2:

Mean, standard deviation, mean percentage and difference in mean percentage of pretest and posttest scores on knowledge regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students in pretest and posttest.

n=50

Area wise	Maximum score	Pretest			Posttest			Difference in mean %
		Mean	S.D	Mean %	Mean	S.D	Mean %	
General information	9	5.9	1.55	65.5	8.08	0.71	89.7	24.2
I-gel	9	3.78	1.65	42	6.54	1.51	72.6	30.6
Laryngeal Mask Airway	12	5.26	1.77	43.8	8.96	1.29	74.6	30.8
Overall	30	14.94	4.97	151.3	23.58	3.51	236.9	85.6

The above table shows that, in area of general information the pre test mean score is 5.9±1.55 and mean percentage is 65.5, where as in the post test mean score is 8.08±0.71 and mean percentage is 89.7. This reveals that the difference in mean percentage is 24.2.

In the area of I-gel the pre test mean score is 3.78±1.65 and mean percentage is 42, where as in the post test mean score is 6.54±1.51 and mean percentage is 72.6. This reveals that the difference in mean percentage is 30.6.

In the area of Laryngeal mask airway the pre test mean score is 5.26±1.77 and mean percentage is 43.8, where as in the post test mean score is 8.96±1.29 and mean percentage is 74.6. This reveals that the difference in mean percentage is 30.8.

In the pretest, the overall mean score is 14.94±4.97. In the pretest, the highest mean score is achieved in the general information with the score of 5.9±1.55. It reveals that difference in mean percentage is 24.2.

In the post test, overall mean score is 23.58±3.51. The highest score is achieved in the Laryngeal Mask Airway with the score of 8.96±1.29. The overall difference in mean percentage is 85.6. The mean difference reveals that there is significant improvement in the knowledge in post test.

f) Area wise comparison between the pretest and the posttest scores on skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students.

Table – 4.3:

Mean, standard deviation, mean percentage and difference in mean percentage of pretest and posttest scores on skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students in pretest and posttest

n=50

Area wise	Maximum score	Pretest			Posttest			Difference in mean %
		Mean	S.D	Mean %	Mean	S.D	Mean %	
I-gel	14	7.08	1.03	50.5	12.08	1.33	86.2	35.7
Laryngeal Mask Airway	16	7.82	1.19	48.8	13.54	1.43	84.6	35.8
Overall	30	14.9	2.22	99.3	25.62	2.76	170.8	71.5

The above table shows that In the area of I-gel the pre test mean score is 7.08±1.03 and mean percentage is 50.5, where as in the post test mean score is 612.08±1.33 and mean percentage is 86.2. This reveals that the difference in mean percentage is 35.7.

In the area of Laryngeal mask airway the pre test mean score is 7.82±1.19 and mean percentage is 48.8, where as in the post test mean score is 13.54±1.43 and mean percentage is 84.6. This reveals that the difference in mean percentage is 35.8.

In the pretest, over all mean score is 14.9±2.22. The higher percentage of the pretest is achieved in the Laryngeal Mask Airway, where the mean score is 7.82±1.19 with the difference in mean percentage of 35.8.

In the post test, the overall mean score was 25.62±2.76. The highest mean score is achieved in the area of laryngeal mask airway with the score of 13.54±1.43. The overall difference in mean percentage is 71.5. This reveals that there is significant improvement in the post test on skill than the pretest.

g) Comparison between the pretest and the posttest scores on knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students.

Table – 4.4:

Comparison between the mean, SD, mean difference of pretest and the post test scores on knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway Among the paramedical students.

n=50

S. No	Variables	Maximum score	Pretest			Posttest			Difference in mean %
			Mean	S.D	Mean %	Mean	S.D	Mean %	
1	Knowledge	30	14.94	2.99	49.8	23.58	2.50	78.6	28.8
2	Skill	30	14.9	1.72	49.7	25.62	2.31	85.4	35.7

The above table shows that in pretest, the knowledge mean score is 14.94±2.99 and the mean percentage is 49.8%. Where is posttest, the knowledge mean score is 23.58±2.50 and the mean percentage is 78.06%. The difference in mean percentage between the pretest and the posttest was 28.8%.

In pretest, the skill mean score is 14.9±1.72 and the mean percentage is 49.7%. Where is posttest, the skill mean score is 25.62±2.31 and the mean percentage is 85.4%. The difference in mean percentage between the pretest and the posttest is 35.7%. It shows that in posttest there is significant improvement in knowledge and skill when compared to the knowledge and skill in pretest.

Section D

a) Effectiveness of video assisted teaching programme on knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students.

Table – 4.5:

The mean, SD and 't' value on knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students in pretest and posttest.

n=50

S.No	Variables	Maximum score	Pretest		Posttest		Paired 't' value	Df
			Mean	SD	Mean	SD		
1	Knowledge	30	14.94	2.99	23.58	2.50	15.74	49
2	Skill	30	14.9	1.72	25.62	2.31	30.63	

***significant at p≤0.05 level Table value: 2.02**

The above table shows the pre test knowledge Mean score is 14.94±2.99 and the posttest knowledge mean score is 23.58±2.50. The Skill mean score in the pretest is 14.9±1.72 and the posttest skill mean score is 25.62±2.31. The Obtained't' value for knowledge and skill is 15.74 and 30.63 respectively, which is significant at p≤0.05 level. Hence the hypothesis H_1 was retained. Thus it becomes evident that Video Assisted Teaching Programme is effective in improving the knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among the paramedical students

b) Relationship between pretest and posttest scores on knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students

Table – 4.6:

Correlation between the pretest and the post test scores on knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among the paramedical students.

n=50

S.No	Group	Knowledge		Skill		'r'
		Mean	SD	Mean	SD	
1	Pretest	14.94	2.99	14.9	1.72	0.41
2	Posttest	23.58	2.50	25.62	2.31	0.65

The above table shows that, in the pretest mean score of knowledge and skill is 14.94±2.99 and 14.9±1.72 respectively, 'r' value was 0.41. The posttests mean score of knowledge and skill is 23.58±2.50 and 25.62±2.31 respectively, 'r' value is 0.65.

This reveals that there is positive correlation between the pretest and the posttest knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students. Hence the formulated hypothesis H_2 was retained at $p \leq 0.05$ level.

c) Association between the pretest scores on knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students and their selected demographic variables.

Table – 4.7:

Chi Square test on the knowledge regarding successful ventilation with I-gel and Laryngeal Mask Airway among the Paramedical Students with their selected Demographic Variables.

n=50

S.No	Demographic variables	χ^2	Df	Table value
1	Age	2.76	2	5.99
2	Gender	0.06	1	3.84
3	Religion	2.21	3	7.82
4	Category of course	0.001	1	3.84
5	Previous knowledge	0.023	1	3.84
6	If yes how did you obtain information	1.60	3	7.82

***significant at p≤0.05 level**

The above table shows that there is no association between pretest score on knowledge regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students and their selected demographic variables such as Age, gender, religion, category of course of study, and previous knowledge. Hence the research hypothesis H_3 was rejected at $p \leq 0.05$ level.

Table – 4.8:

Chi square test on the skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among Paramedical Students with their selected demographic variables.

n=50

S.No	Demographic variables	χ^2	Df	Table value
1	Age	0.27	2	5.99
2	Gender	0.63	1	3.84
3	Religion	1.04	3	7.82
4	Category of course	0.03	1	3.84
5	Previous knowledge	0.59	1	3.84
6	If yes how did you obtain information	1.18	3	7.82

***significant at p≤0.05 level**

The above table shows that there is no association between pretest score on skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students and their selected demographic variables such as Age, gender, religion, category of course of study, and previous knowledge. Hence the research hypothesis H_3 was rejected at $p \leq 0.05$ level.

Summary:

This chapter deals with the data analysis and interpretation in the form of statistical values based on the objectives, frequency and percentage on the knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students and their selected demographic variables analyzed. The‘t’ test is done to evaluate the effectiveness of video assisted teaching programme on knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among Paramedical Students. The chi-square analysis is used to find out the association between the pretest scores on knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among the Paramedical students and the selected demographic variables.

CHAPTER-V

DISCUSSION

The primary purpose of the present study was to evaluate the effectiveness of video assisted teaching programme on knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among the paramedical students and to find out the association between the pretest score on knowledge and skill regarding successful ventilation with I-gel and laryngeal mask airway among the paramedical students with their selected demographic variables.

Frequency and percentage distribution of paramedical students according to their demographic variables:

The distribution of the paramedical students according to their demographic variables, shows that among 50 paramedical students 23(46%) were aged between 20-22years, regarding gender, majority of the paramedical students 34(68%) were males and most of the paramedical students 31(62%) belong to Hindu religion, half of the paramedical students 31(62%) were studying bachelors of science in critical care, most of paramedical students 40(80%) had previous knowledge regarding airway management, in which 22(48%) of them have gained information by attending class.

Assessment of the knowledge and skill regarding successful ventilation with I-gel and laryngeal mask airway among paramedical students.

In the pretest, among 50 paramedical students, 34(68%) paramedical students had inadequate knowledge, 16(32%) paramedical students had moderately adequate knowledge and none of them had adequate knowledge. Regarding skill none of the paramedical students had good skill, 15(30%) paramedical students had average skill and 35(70%) of them had poor skill.

The present study was supported by **Mustafa Ugur Yuksel, et.al (2012),** who has done a cross sectional study on the benefits and short comings of mandatory first aid and airway management with I-gel and laryngeal mask airway among 30 paramedical students at Antrim area hospital, Antrim, united kingdom. The results showed that in pretest out of 14 questions, the average number of correct answers was 8 and 64% of participants had adequate knowledge, 13% participants had knowledge regarding how to diagnose respiratory arrest and airway management and 23% of them were aware of when to activate the emergency medical services.

Effectiveness of video assisted teaching programme on knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students.

In the pretest, mean knowledge and skill score was 14.94±2.99 and 14.9±1.72. The posttests mean knowledge and skill score was 23.58±2.50 and 25.62±2.31 respectively. The calculated't' value for knowledge and skill were 15.74 and 30.63 which were greater than the tabulated't' value 2.02, which was significant at $p \leq 0.05$ level. Hence hypothesis H_1 was retained. This reveals that the video assisted teaching programme was effective in improving knowledge and skill regarding successful ventilation with I-gel and laryngeal mask airway among paramedical students.

The present study finding was supported by **Orhan Tokgoz, et.al, (2012**), who conducted a study on the effectiveness of I-gel and laryngeal mask airway and resuscitation manikin with 24 minutes video instruction among the paramedical students of Sakarya University, Turkey. In total, 60 paramedical students took part in the airway management training programme. The results showed that the number of correct intubation I-gel and laryngeal mask airway increased significantly from to 26.2 ± 17.7 seconds in the pre and post-training periods, The study result shows that

calculated paired 't' test value 25.91 was greater than tabulated value 1.96 significant at $p \leq 0.05$ level. It is concluded that an effectiveness regarding I-gel and laryngeal mask airway and resuscitation manikin with video instruction is a simple and less time-consuming method than instructor courses in preparing hospital paramedical students.

Relationship between pretest and posttest scores on knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students.

In the pretest mean score of knowledge and skill was 14.94±2.99 and 14.9±1.72 respectively 'r' value was 0.41. The post-test mean score of knowledge and skill was 23.58±2.58 and 25.62±2.31 respectively, 'r' value was 0.65. This reveals that there was positive correlation between the pretest and the post test score on knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students. Hence the formulated hypothesis H_2 was retained at $p<0.05$ level.

The present study was contradictory to the findings of **Russo SG, et.al, (2012),** who conducted a quasi-experimental study on the effectiveness of planned teaching programme on knowledge and practice regarding successful ventilation with I-gel and laryngeal mask airway among the 50 paramedical students in Germany. The data analysis revealed that the mean posttest knowledge score 74.92% was found to be significantly higher than the pretest knowledge score 27.03 % t value 31.019, $P<0.05$ similarly that the mean posttest practice score 69.50% was found to be significantly higher than the pretest practice score 18.11 % t value 30.929, $P \leq 0.05$. The coefficient correlation between the pretest and posttest knowledge and practice

was r = -0.20 and r = -0.021 at 0.05 level of significance**,** which is indicating the low negative correlation.

Association between the pretest scores on knowledge and skill regarding successful ventilation with I-gel and Laryngeal Mask Airway among paramedical students and their selected demographic variables.

There was no association found between the knowledge with selected demographic variables such as such as Age, gender, religion, category of course of study and previous knowledge. Hence the research hypothesis H3 is rejected at $p \geq 0.05$ level.

There was no association found between the skill with selected demographic variables such as such as Age, gender, religion, category of course of study and previous knowledge. Hence the research hypothesis H3 is rejected at $p \geq 0.05$ level.

Summary:

This chapter dealt with the discussion of the study with reference to objectives and supportive studies. All three objectives have been attained and hypothesis H_1 and hypothesis H_2 are retained and hypothesis H3 was not retained.

CHAPTER – VI

SUMMARY, CONCLUSION, IMPLICATION, AND RECOMMENDATIONS

This chapter consists of four sections. In the first two sections, the summary and conclusion are presented. In the last two sections, the recommendations for further research and implications for nursing practice are presented.

Summary:

The purpose of the study was to evaluate the effectiveness of Video Assisted Teaching Programme on knowledge and skill regarding successful ventilation with the I-gel and Laryngeal mask Airway among the paramedical students before and after the teaching programme. The study was pre experimental design. The main study was conducted at the Sri Gokulam College of Allied health science and Vinayaka Mission's college of paramedical sciences, Salem.

The total of 50 paramedical students who met the inclusion criteria were selected from the Sri Gokulam College of Allied Health Science and Vinayaka Mission's College of Paramedical Sciences by non-probability convenience sampling technique. The structured knowledge questionnaire and observational checklist were administered to find out the pretest knowledge and skill regarding successful ventilation with the I-gel and Laryngeal mask Airway among the paramedical student. The Video Assisted Teaching Programme was given on the same day for a period of half an hour followed by the demonstration of I-gel and Laryngeal mask Airway intubation procedure by using manikin. The paramedical students performed the return demonstration on the I-gel and Laryngeal Mask Airway intubation by using the manikin for the seven successive days after the administration of the video assisted teaching programme. The posttest was conducted on the 8th day after the teaching programme by administering the same structured knowledge questionnaire and

observational checklist. The collected data were analyzed by using descriptive and inferential statistics. Inferential statistics such as Paired‘t’ test was used to analyze the effectiveness between pre and posttest and Chi-square test was used to find the association with the selected demographic variables.

Major Findings of the Study:

- In the pretest, 34(68%) paramedical students had inadequate knowledge, 16(32%) paramedical students had moderately adequate knowledge and none of them had adequate knowledge whereas regarding skill, none of them had good skill, 15(30%) paramedical students had average skill and 35(70%) of them had poor skill.
- In the post test among the paramedical students 42(84%) paramedical students had adequate knowledge and 8(16%) of them had moderately adequate knowledge whereas regarding skill, 43(86%) of them had good skill and 7(14%) paramedical students had average skill
- In the pretest, the knowledge mean score was 14.94±2.99 and difference in mean percentage was 49.8%. The mean score for skill was 14.9±1.72 and difference in mean percentage was 49.7%.
- In the posttest, the knowledge mean score was 23.58±2.50 and difference in mean percentage was 78.6%. The mean score for skill was 25.62±2.31 and difference in mean percentage for the posttest was 85.4%.
- The‘t’ value for knowledge and skill was 15.74 and 30.63 respectively, which was significant at $p<0.05$ level. Hence the hypothesis H_1 was retained.
- In the pretest mean score of knowledge and skill was14.94±2.99 and 14.9±1.72 respectively. ‘r’ value was 0.41. The post-test mean score of

knowledge and skill was 14.9±1.72 and 25.62±2.31 respectively. 'r' value was 0.65. Hence the formulated hypothesis H_2 was retained at $p \leq 0.05$ level.

- There was no association found between the knowledge and skill with selected demographic variables such as such as Age, gender, religion, category of course of study and previous knowledge. Hence the research hypothesis H_3 is rejected at $p \geq 0.05$ level.
- There was no association between the skill among the paramedical students with their demographic variables such as Age, gender, religion, category of course of study, and previous knowledge. Hence the research hypothesis H_3 was rejected at $p \geq 0.05$ level.

Conclusion:

The study was done to determine the effectiveness of video assisted teaching programme on knowledge and skill regarding successful ventilation with the I-gel and Laryngeal mask Airway among the paramedical students in the selected area of Salem city, TamilNadu. The result of this study shows that there was a significant improvement in the knowledge and skill regarding successful ventilation with the I-gel and Laryngeal mask Airway among the paramedical students. There was no significant association between knowledge and skill with their selected demographic variable.

Implications:

The findings of this study have implications in various areas of nursing. The findings of the study show that the need for consulting regular training programme for the nurses on knowledge and skill regarding successful ventilation with the I-gel and Laryngeal mask Airway among the paramedical students.

Nursing Practice:

1. The nurse should motivate other staff members about the importance and use of I-gel and laryngeal mask airway for saving the life of patients.
2. The nurse should understand the importance of video assisted teaching programme on improving knowledge and skill with supraglottic airway devices.
3. The video assisted teaching programme on knowledge and skill regarding successful ventilation with supraglottic devices.
4. The nurse should teach other nurses about the benefits of improving the knowledge regarding successful ventilation with supraglottic airway device.

Nursing Education:

1. The nurse educator should encourage nursing students to actively participate in awareness programmes with I-gel and Laryngeal mask Airway.
2. In-service education programmes, workshops and continuing education programmes are to be conducted update the knowledge of the nursing personnel regarding supraglottic airway devices.
3. The nurse educator should encourage the nursing researchers to use different method of teachings such as simulations, interactive video films while conducting the researches on airway management education.
4. Airway management competency should be included in the orientation programme for new graduate nurses.
5. Trend in the field of airway management should be included in the general basic nursing education so that students can attain competency on Airway management.

Nursing Research:

1. The nurse researchers can take this study as a base line to build upon future studies.
2. The generalization of study result can be made by replication of the study.
3. Disseminate the findings through conferences, seminars, publication in journals and worldwide web.
4. The findings of the study can help to expand the scientific body of professional knowledge upon which further research can be conducted. It will in turn strengthen nursing research pertaining to clinical nursing.

Nursing Administration:

1. The nurse administrator can plan and organize education programmes and workshops regarding airway management for the medical personnel.
2. Necessary administrative support should be provided to conduct workshops and in-service programmes for nursing personnel's regarding airway management with supraglottic airway devices.
3. The nurse administrator should provide adequate resources to train the nonparamedical personnel's with supraglottic airway devices.
4. The nurse administrator should appoint separate airway management team to guide the nursing personals airway management with I-gel and laryngeal mask airway.
5. Necessary administrative actions should be made that supraglottic airway device competency must be mandatory for the learner nursing students.
6. A booklet can be formed on sequence regarding ventilation with supraglottic airway devices to reinforce the paramedical students.

Recommendations:

1. A comparative study can be done between the I-gel versus laryngeal mask airway.
2. A similar kind of study can be conducted for nursing students.
3. A similar study can be done for the nursing staffs.
4. A comparative study can be to done to evaluate the effectiveness of simulation versus interactive video films with I-gel and laryngeal mask airway for laypersons.
5. A similar study can be replicated by using two different settings for I-gel and laryngeal mask airway.

Summary:

This chapter dealt with summary, conclusion, implication for nursing practice and recommendation.

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ANNEXURE - A

LETTER SEEKING PERMISSION TO CONDUCT A RESEARCH STUDY

SRI GOKULAM COLLEGE OF NURSING
3/836, Periyakalam, Neikkarapatti, Salem - 636 010.
Phone : 0427 - 6544550,2272240,2272250 Fax : 0427 - 2270200, 2447077
Email : sgcon2001@yahoo.com, sgcon2001@gmail.com

Date : .....

LETTER REQUESTING TO CONDUCT A RESEARCH STUDY

To

The Principal,

Sri Gokulam College of Allied Health Science,

Salem.

Respected Sir/Madam,

Sub: Permission to conduct Research Project–request- reg.

This is to introduce **Mr.A.Sanjai Kumar,** Final year M.Sc (N) student of Sri Gokulam college of Nursing. He is to conduct a research project which is to be submitted to "The TamilNadu Dr .M.G.R. Medical University, Chennai" in partial fulfillment of university requirement for the award of M.Sc (Nursing) Degree.

Topic: A Study to Assess the Effectiveness of Video Assisted Teaching Programme on Knowledge and Skill regarding Successful Ventilation with I-gel and Laryngeal Mask Airway among Paramedical Students at selected Colleges, Salem.

I request you to kindly permit him to conduct the research project in your esteemed institution from 29-07-13 to 27-08-13. He will adhere to the institutional policies and regulation.

Kindly do the needful,

Thanking you,

Date: 16.07.2013

Yours sincerely,

Place: Salem

(Dr.K.Tamizharasi)
PRINCIPAL
Sri Gokulam College of Nursing
SALEM – 636 010.

ANNEXURE - B

LETTER GRANTING PERMISSION TO CONDUCT A RESEARCH STUDY

SRI GOKULAM COLLEGE OF NURSING
3/836, Periyakalam, Neikkarapatti, Salem - 636 010.
Phone : 0427 - 6544550,2272240,2272250 Fax : 0427 - 2270200, 2447077
Email : sgcon2001@yahoo.com, sgcon2001@gmail.com

Date : .....

LETTER REQUESTING TO CONDUCT A PILOT STUDY

To

The Principal,
Vinayaka Mission College of Paramedical Science,
Salem.

Respected Sir/Madam,

Sub: Permission to conduct Pilot Study–request- reg.

This is to introduce **Mr.A.Sanjai Kumar,** Final year M.Sc (N) student of Sri Gokulam college of Nursing. He is to conduct a research project which is to be submitted to "The TamilNadu Dr .M.G.R. Medical University, Chennai" in partial fulfillment of university requirement for the award of M.Sc (Nursing) Degree.

Topic: A Study to Assess the Effectiveness of Video Assisted Teaching Programme on Knowledge and Skill regarding Successful Ventilation with I-gel and Laryngeal Mask Airway among Paramedical Students at selected Colleges, Salem

I request you to kindly permit him to conduct the pilot study in your esteemed institution from 22-07-13 to 27-07-13. He will adhere to the institutional policies and regulation.

Kindly do the needful,

Thanking you,

Yours Sincerely,

(Dr.K.Tamizharasi)
PRINCIPAL
Sri Gokulam College of Nursing
SALEM – 636 010.

SRI GOKULAM COLLEGE OF NURSING
3/836, Periyakalam, Neikkarapatti, Salem - 636 010.
Phone : 0427 - 6544550,2272240,2272250 Fax : 0427 - 2270200, 2447077
Email : sgcon2001@yahoo.com, sgcon2001@gmail.com

Date : .....

LETTER REQUESTING TO CONDUCT A RESEARCH STUDY

To

The Principal,
Vinayaka Mission College of Paramedical Science,
Salem.

Respected Sir/Madam,

Sub: Permission to conduct Research study–request- reg.

This is to introduce **Mr.A.Sanjai Kumar,** Final year M.Sc (N) student of Sri Gokulam college of Nursing. He is to conduct a research project which is to be submitted to "The TamilNadu Dr .M.G.R. Medical University, Chennai" in partial fulfillment of university requirement for the award of M.Sc (Nursing) Degree.

Topic: A Study to Assess the Effectiveness of Video Assisted Teaching Programme on Knowledge and Skill regarding Successful Ventilation with I-gel and Laryngeal Mask Airway among Paramedical Students at selected Colleges, Salem

I request you to kindly permit him to conduct the research study in your esteemed institution from 29-07-13 to 27-08-13. He will adhere to the institutional policies and regulation.

Kindly do the needful,

Thanking you,

Date: 16.07.2013

Yours sincerely,

Place: Salem

(Dr.K.Tamizharasi)
PRINCIPAL
Sri Gokulam College of Nursing
SALEM – 636 010.

ANNEXURE C

LETTER REQUESTING OPINION AND SUGGESTION OF EXPERTS FOR CONTENT VALIDITY OF THE RESEARCH TOOL

From

Mr.Sanjai Kumar.A,
Final Year M.Sc., (N)
Sri Gokulam College of Nursing,
Salem, Tamil Nadu.

To,

(Through proper channel)

Respected Sir/ Madam,

Sub: Requesting opinion and suggestions of experts for establishing content validity of the tool.

I **Mr.Sanjai Kumar.A,** II Year M.Sc., (Nursing) student of Sri Gokulam College of Nursing, Salem, have selected the below mentioned Statement of the Problem for the research study to be submitted to The Tamil Nadu Dr. M.G.R. Medical University, Chennai as partial fulfillment for the award of Master of science in Nursing.

Topic: "A Study to Assess the Effectiveness of Video Assisted Teaching Programme on Knowledge and Skill regarding Successful Ventilation with I-gel and Laryngeal Mask Airway among Paramedical Students at selected Colleges, Salem."

I request you to kindly validate the tool developed for the study and give your expert opinion and suggestion for necessary modifications.

Thanking you,

Place : Salem
Date :

Yours sincerely,

Mr.Sanjai Kumar.A

Enclosed:

1. Certificate of validation
2. Criteria checklist of evaluation of tool
3. Tool for collection of data
4. Intervention

ANNEXURE - D

TOOL FOR DATA COLLECTION

TOOL: I

DEMOGRAPHIC PROFORMA

Instructions:

Kindly read the questions given below and place a tick (√) mark against the right option given below.

SAMPLE NO:

1. Age in year [ ]
    a) 17-19
    b) 20-22
    c) 23-25
2. Gender [ ]
    a) Male
    b) Female
3. Religion [ ]
    a) Hindu
    b) Muslim
    c) Christian
    d) Any other
4. Category of course of study. [ ]
    a) B.Sc (Critical Care)
    b) B.Sc (Physician Assistant)
5. Previous knowledge regarding airway management [ ]
    a) Yes
    b) No

6. If yes how did you obtain information regarding airway management [ ]

   a) By attending classes

   b) By attending airway management courses

   c) Through television

   d) Through internet

TOOL: II

STRUCTUERD QUESTIONARRIES ON I-GEL AND LARYNEAL MASK AIRWAY

Instructions:

Kindly read the questions given below and place a tick (√) mark against the right option given below.

KNOWLEDGE REGARDING GENERAL INFORMATION

1. Which is the important organ in the respiratory system? [ ]
    a) Brain
    b) Liver
    c) Lung
2. Which disease occurs in the respiratory system? [ ]
    a) Heart attack
    b) Peptic ulcer
    c) Respiratory failure
3. What is respiratory arrest? [ ]
    a) Loss of lung function
    b) Loss of heart function
    c) Loss of brain function
4. What is airway management? [ ]
    a) Establishment of respiration
    b) Establishment of circulation
    c) Establishment of brain function
5. Which organ artificially functions while giving ventilation? [ ]
    a) Heart
    b) Lung
    c) Stomach

6. What is the first step of airway management? [ ]

    a) Transport the patient to the causality

    b) Check for breathing and open the airway

    c) Call for help before handling the patient

7. Where do you place the patient while intubation? [ ]

    a) Chair

    b) Table

    c) immovable stretcher

8. Which position do you place the patient while intubating the patient? [ ]

    a) Patient lying on his back

    b) Patient lying on his abdomen

    c) Patient is on sitting position

9. Which method you will follow to open the airway? [ ]

    a) Head tilt and chin lift or jaw thrust

    b) Hyper extension of head

    c) Hyper flexion of head

KNOWLEDGE REGARDING I-GEL

10. What is I-gel? [ ]

    a) Mouth airway

    b) Supraglottic device to maintain airway

    c) It is an alternative to ET tube

11. What is the indication for using the I-gel? [ ]

    a) In case difficulty in ET intubation or in pre hospital setting

    b) For maintaining prolonged ventilation

    c) It is a pre-operative procedure

12. How will you select the appropriate size of I-gel? [ ]

a) According to weight

b) According to age

c) Both

13. How the I-gel should be taped? [ ]

a) Maxilla to maxilla

b) Maxilla to mandible

c) Mandible to mandible

14. What is the size of I-gel for an adult of medium size? [ ]

a) 4

b) 5

c) 2.5

15. What is the standard for insertion technique of I-gel? [ ]

a) Triple manoeuvres

b) Tilt the head forward

c) Jaw thrust

16. What should be the peak airway pressure limit for I-gel insertion? [ ]

a) 20cm H2O

b) 60cmH2O

c) 40cmH2O

17. Is necessary to use protective equipment while inserting the I-gel ? [ ]

a) Yes

b) No

c) Not compulsory

18. Is there any complication by using I-gel? [ ]

a) Minor complications

b) Major complications

c) No complications

KNOWLEDGE REGARDING LARYNGEAL MASK AIRWAY

19. Which is the most appropriate LMA size for adult? [ ]

a) 3

b) 4

c) 5

20. Which is the proper positioning for insertion of LMA? [ ]

a) By using thumb and index finger

b) By using little finger and index finger

c) By using middle and index finger

21. What are indications for using LMA? [ ]

a) Difficult bag value ventilation and difficult ET intubation

b) Prolonged ventilation

c) Post operative procedure

22. What are the contraindications for using LMA? [ ]

a) Pregnancy and massive injury

b) Abdominal injury

c) Thoracic injury

23. Is there any complication by using LMA? [ ]

a) Minor complications

b) Major complications

c) No complications

24. How will you select the appropriate size of LMA? [ ]

a) According to weight

b) According to age

c) Both

25. What is the difference between I-gel and LMA? [ ]

a) There is no difference between I-gel and LMA

b) LMA has cuff deflation whereas I-gel has no cuff inflation

c) I-gel is easy to ventilate whereas LMA is difficult to ventilate

26. Which is easier and faster to intubate? [ ]

a) LMA

b) I-gel

c) Both

27. Which causes mechanical obstruction after LMA insertion? [ ]

a) Failure to press the deflated mask up against the hard palate

b) Inadequate lubrication or deflation

c) All of the above

28. How do you know that patient is getting adequate ventilation? [ ]

a) Chest expansion

b) Abdominal distension

c) Adequate oxygenation

29. If the patient has a suspected spinal injury [ ]

a) Open the airway using a jaw-thrust without head extension

b) using an immobilization device during opening the airway

c) use a head-tilt/chin-lift maneuver

30. What problem will arise due to wrong ventilation? [ ]

a) infection

b) abdominal distension

c) laryngeal injury

SCORING KEY:

- 0-50%inadequate knowledge
- 51-75%- moderate knowledge
- 76-100% adequate knowledge

ANSWER KEY FOR KNOWLEDGE QUESTIONNAIRE ON I-GEL AND LARYNGEAL MASK AIRWAY

1	C	16	B
2	C	17	C
3	A	18	A
4	A	19	A
5	B	20	B
6	B	21	A
7	C	22	C
8	A	23	A
9	A	24	C
10	B	25	B
11	A	26	B
12	C	27	C
13	A	28	A
14	A	29	A
15	B	30	B

CHECKLIST TO ASSESS THE SKILL IN I-GEL INTUBATION

(AIRWAY MANAGEMENT)

Note: the instructor will assess each step carefully. Each step of the observation carries one mark .Place (✓) tick mark if done and give one mark put (x) cross mark if not done and give zero mark. **(American association of critical care nurses)**

	Score	**1**	**0**	
S. No	**Behaviour**	**Done**	**Not done**	**Remarks**
I	**PREPARATIONS OF ARTICLES AT BEDSIDE**			
II	**ASSESSMENT**			
1.	Gently shake or gently shake shoulder.			
2.	Shout "Are you ok".			
3.	Check airway for secretions and foreign body.			
4.	Look for chest rise and fall.			
III	**PERFORMANCE**			
1.	Wash hands.			
2.	Ensure that a spare tube of the same size is available.			
3.	Remove the tube from the package and inspect.			
4.	Lubricate the posterior tip of the cuff with water soluble lubricant.			
5.	Placing the patients head in a sniffing position.			
6.	Use index finger method of insertion (or) Use thumb method of insertion.			
7.	Observe correct placement and inflation.			
8.	Connect 15 mm male adapter to bag valve device and gently ventilate peak airway pressure.			
9.	Secure the tube.			
10.	Recording and reporting.			
	TOTAL			

CHECKLIST TO ASSESS THE SKILL IN LMA INTUBATION

(AIRWAY MANAGEMENT)

Note: the instructor will assess each step carefully. Each step of the observation carries one mark .Place (✓) tick mark if done and give one mark put (x) cross mark if not done and give zero mark. **(American association of critical care nurses)**

	SCORE	**1**	**0**	
S. No	**Behaviour**	**Done**	**Not done**	**Remarks**
I	**PREPARATION OF ARTICLES AT BEDSIDE**			
II	**ASSESSMENT**			
1.	Gently shake or gently shake shoulder.			
2.	Shout "Are you ok".			
3.	Check airway for secretions and foreign body.			
4.	Look for chest rise and fall.			
III	**PERFORMANCE**			
1.	Wash hands.			
2.	Ensure that a spare tube of the same size is available.			
3.	Remove the tube from the package and inspect.			
4.	Perform the deflation and inflation tests.			
5.	Deflate the cuff by placing it aperture side down.			
6.	Lubricate the posterior tip of the cuff with water soluble lubricant.			
7.	Placing the patients head in a sniffing position.			
8.	Use index finger method of insertion (or) Use thumb method of insertion.			
9.	Release the airway tube and inflate the cuff to create a seal.			
10.	Observe correct placement and inflation.			
11.	Connect 15 mm male adapter to bag valve device and gently ventilate peak airway pressure			
12.	Secure the tube and Recording and reporting			
	TOTAL			

ANNEXURE - E

LESSON PLAN

SUBMITTED TO:

MRS.HEPSI CHARLES, M.SC (N)

READER,

MEDICAL SURGICAL NURSING,

SGCON,

SUBMITTED BY:

SANJAIKUMAR, A

M.SC (N) 2ND YEAR,

SGCON,

STRUCTURED TEACHING PROGRAMME

TOPIC	: A study to evaluate the effectiveness of video assisted teaching programme on knowledge and skill regarding successful ventilation with I-gel and laryngeal mask airway among the Paramedical students
Group	: 50 Paramedical students
Venue	: Sri Gokulam hospitals, Salem
Duration	: 60 Minutes
Method of Teaching	: Lecturer cum Demonstration
Teaching Aid	: Manikin, video, real instruments

CENTRAL OBJECTIVE

The paramedical students will improve knowledge and skill regarding successful ventilation with I-gel and laryngeal mask airway and able to Practice the right technique of ventilation

SPECIFIC OBJECITVE

On completion of this teaching session, the paramedical students will be able to,

- define airway management
- review the anatomy and physiology of Cardiovascular system, lungs
- mention the indication of I-gel
- list out the contraindications of I-gel
- specify the size of I-gel
- explain the precheck before use of I-gel
- enumerate the Pre – Insertion Preparation
- demonstrate the I-gel insertion and securing technique
- list out the indications of Laryngeal mask airways (lma),
- Enlist the contraindications of Laryngeal mask airways
- Enumerate the equipment's used in Laryngeal mask airways
- Explain the Preparation of the LMA for Insertion
- demonstrate how to LMA Insertion Technique

Time	Specific objectives	Content	Teacher and learners activity
1.5min	The staff nurse will be able to: introduce the topic	**Introduction** We see an interesting event in the Bible in II Kings. Then Elizabeth went up and lay upon the child, putting his mouth upon his mouth, his eyes and his hands upon his hands and as he stretched himself upon Him, the flesh of the child becomes warm". This quotation state that using mouth to mouth respiration and compressing the chest of a person With cardio respiratory arrest, could bring back the life in that person.	Introduction of topic
2min	define airway management	**AIRWAY MANAGEMENT** Airway management is the medical process of ensuring there is an open pathway between a patient's lungs and the outside world, as well as reducing the risk of aspiration. Airway management is a primary consideration in cardiopulmonary resuscitation, anesthesia, emergency medicine, intensive care medicine and first aid.	Teacher: Define the definition Of airway management Learner: Listens
8min	Review the anatomy and physiology of cardio vascular	**REVIEW OF ANATOMY AND PHYSIOLOGY OF CARDIO VASCULAR SYSTEM:** Cardio vascular system consists of heart, blood vessels and blood.	Teacher: review the anatomy and physiology of cardio vascular system, respiratory

	system, respiratory system	**Heart** The heart is a roughly cone-shaped hollow muscular organ. It is about 10 cm long and is about the size of the owner's fist. It weighs about 225g in women and heavier in men (about 310g) **Position** The heart lies on the thoracic cavity in the mediastinum. **Structure of the Heart** The heart is composed of fee layers of tissue, pericardium, myocardium and endocardium. **Chambers of the heart** The heart contains four chambers. The two upper chambers are atria and the lower chambers are the ventricles. **Circulation of blood** With each beat, the heart pumps blood into two closed circuits – the systematic circulation and the pulmonary circulation. The left side of the heart is the pump for the systemic circulation. It receives freshly oxygenated blood from the lungs. From the aorta, the blood is carried to all organs throughout the body. Whereas the right side of the heart is the pump for pulmonary circulation, it receives all the deoxygenated blood returning from the systematic circulation. Blood ejected from the right ventricle flows in to the pulmonary - trunk, which branches into pulmonary	system Learner: Answering to questions Listens

		arteries that carry blood to the right and left lungs. In pulmonary capillaries, then blood unloads CO2 which is exhaled and picks up O2. The freshly oxygenated blood then flows into pulmonary veins and returns to left atrium. **Conducting system of the heart** The heart has an intrinsic system whereby the cardiac muscle is automatically stimulated to contract without the need for external stimulation. This property is called autorhythmicity. Small groups of specialized neuro muscular cells in the myocardium initiate and conduct impulses, causing coordinated and synchronised contraction of the heart muscle. **Sino Atrial node** This small mass of specialized cells lies in the wall of the right atrium near the opening of the superior venacava. The SA node is pacemaker of the heart because it normally initiates impulses more rapidly than other groups of neuromuscular cells. **Atrioventricular node (AV node)** This small mass of neuromuscular tissue is situated in e wall of the Atrial septum near the atrioventricular valves. Normally, AV node conducts impulses that arrive via the atria and that originated from the SA node. There is a delay here; the electrical signal takes 0.1 of a Second to pass through the ventricles. This allows the atria to finish contracting before the ventricles start.	

		Atrioventricular bundle (AV bundle or bundle of His) This is a mass of specialized fibres that originate from the AV node. The AV bundle crosses the fibrous ring that separates the atria and ventricles then, at the upper end of the Ventricle septum; it divides into right and left bundle branches. Within the ventricular myocardium, there is a purkinji fibre. The AV bundle, bundle branches and purkinji fibres convey electrical impulses from AV node to the apex of myocardium, where the wave of ventricular contraction begins. **Cardiac Cycle** The cardiac cycle is the sequence of events that occur when the heart Beats. There are two phases of this cycle: • Diastole - Ventricles are relaxed. • Systole - Ventricles contract. **Electrical Activity of Heart** The heart has a natural pacemaker that regulates the pace or rate of the heart. It sits in the upper portion of the right atrium (RA) and is a collection of specializes electrical cells known as the SINUS or SINOATRIAL (SA) node. The heart normally beats at around 72 times per minute and the sinus node speeds up during exertion, emotional stress, fever, etc., or whenever our body needs an extra boost of blood supply. In contrast, it and slows down during rest or under the influence of certain	

		medications. Well trained athletes also tend to have a slower heart beat. As the SA node fires, each electrical impulse travels through the right and left atrium. This electrical activity causes the two upper chambers of the heart to contract. This electrical activity can be recorded as P, Q, R, S, T waves in ECG (electrocardiogram). **Blood Supply to the heart** **Arterial Supply:** By the right and left coronary arteries **Venous drainage:** Coronary sinus, which opens into the right atrium. **ANATOMY AND PHYSIOLOGY OF LUNGS** **The left and right lung** The two lungs, which fill most of the thorax, are each enclosed within a double membrane known as the pleura. The right lung is the larger, being divided into three lobes, while the left is divided into two lobes the lobes are further divided into bronchopulmonary segments, each of which has a segmental bronchus. **Pulmonary vasculature** Deoxygenated blood from the heart is carried to the lungs via the pulmonary artery, which divides with the bronchi and bronchioles. At the level of the bronchioles, the pulmonary arterioles have very thin walls. The alveoli are served by a diffuse network of capillaries which provides a large surface area of gaseous exchange.	

		Physiology of the lungs Contraction and relaxation of the muscles of the chest and the diaphragm are responsible for inspiration and expiration. When air is inhaled, the diaphragm contracts and flattens and the intercostals muscles between the ribs contract, pulling the ribcage upwards and outwards. During exhalation, the intercostals muscles and the diaphragm relax, pulling the ribcage down and contracting the lungs. This reduces the volume of the chest and forces the air out of the lungs. The respiratory centre, located in the brain stem, controls breathing. Although breathing is an involuntary process, the depth and rate of breathing can be altered voluntarily. Oxygen from inhaled air passes through the alveoli into the bloodstream. The blood is then taken to the left side of the heart via the pulmonary veins, and from here it is pumped around the body. Deoxygenated blood, which returns from the body to the right side of the heart, is pumped back to the lungs via the pulmonary arteries. Carbon dioxide passes from the capillaries which surround the alveoli, into the alveolar spaces, and is breathed out. **I-Gel** The I-gel airway is a novel type of supraglottic airway, it is a latex free, disposable device, made of a grade thermoplastic elastomer , I-gel anatomically performed to mirror the perilaryngeal structures, the device contains epiglottis blocker, which help to prevent epiglottis from down folding or obstructing laryngeal	

		inlet , the soft non inflatable cuff seals anatomically against perilaryngeal structures furthermore, the I-gel has a gastric channel allowing venting of the air and gastric content or insertion of gastric tube.	
3min	mention the indication of I-gel	**INDICATIONS FOR USE OF I-GEL:** • Airway maintenance during general anaesthesia in fasted patients • Not suitable for the patients and procedures with increased risk of aspiration of gastric content • Could be used either with spontaneous or controlled ventilation • Conduit for endotracheal intubation in the patients with difficult to manage airway • Potential use in cardiopulmonary resuscitation even in pre hospital setting	Teacher : mention the indications of I-gel Learner: listens
3min	list out the contraindications of I-gel	**CONTRAINDICATIONS:** • Non-fasted patients for routine and emergency anaesthetic procedures • Trismus, limited mouth opening , pharyngeal-perilaryngeal abscess , trauma or mass • Do not allow peak airway pressure of ventilation to exceed 40cm H2O • Do not use excessive force to insert to the device or nasogastric tube	Teacher: list out the contraindications of I-gel Learner: listens

		• Inadequate levels of anaesthesia which may head to coughing, excessive salivation, retching , laryngospasam or breath holding thus complicating the anaesthetic outcome, • Do not leave the device in situ for more than four hours • Do not reuse or attempt to reprocess the I-gel • Patient with any condition which may increase the risk of a full stomach, e.g. hiatus hernia, sepsis, morbid obesity, pregnancy or a history of upper gastrointestinal surgery **WARNING:** • I-gel must be lubricated according to the instruction for use only • The patient should always be in the "sniffing the morning sir" position prior to insertion with the assistant helping to open the patients mouth , unless head / neck movements are considered inadvisable or are contraindicated • Optimum depth of anaesthetic must be achieved prior to attempting insertion (i.e absence of eyelash reflux, easy up and down movement of the lower jaw, no reaction to pressure applied to both angle of the mandible) • The leading edge of the I-gel's tip must follow the curvature of the patient's hard palate upon insertion	

		• If there is a failure to achieve complete insertion after utilising the standard insertion technique and a jaw thrust, deep rotation or triple manoeuvre has also failed, then the device should be inserted under direct vision by laryngoscope or one size smaller device should be used • After insertion, I-gel should be taped down from maxilla-to-maxilla • Excessive air leak during manual ventilation is primarily due to either sub-optimal depth of anaesthesia or sub-optimal depth of I-gel insertion.	
3min	specify the size of I-gel	**SIZE SELECTION:** Select the appropriate size I-gel by assess the patients anatomy , the I-gel ‘s cuff may lock smaller than tradition supraglottic devices with are inflatable cuff of the same numerical size	Teacher: specifying the size selection Learner: listens

4min	explain the pre check before use of I-gel		Teacher : explain the pre check before use of I-gel Learners: listens
4min	enumerate the Pre – Insertion Preparation	**PRECHECK BEFORE USE** • Inspect the packaging and ensure it is not damaged prior to opening • Inspect the device carefully, check the airway is patent and confirm there are no foreign bodies or a BOLUS of lubricant obstructing the distal opening of the airway or gastric channel • Carefully inspect inside the bowl of the device, ensuring surfaces are smooth and intact and also that the gastric channel is patent • Discard the device if the airway tube or the body of the device looks abnormal or	Teacher: enumerate the pre insertion preparations Learners: listens

I-GEL SIZE	PATIENT SIZE	PATIENT WEIGHT GUIDANCE (KG)
1	NEONATE	2-5
1.5	INFANT	5-12
2	SMALL PEADIATRIC	10-25
2.5	LARGE PEADIATRIC	25-35
3	SAMLL ADULT	30-60
4	MEDIUM ADULT	50-90
5	LARGE ADULT	90

		deformed • Check the 15mm connector fits the patient connection **PRE – INSERTION PREPARATION - ADULT I-GEL. SIZES 3, 4 AND 5** 1. Always wear gloves 2. Open the I-gel package, and on a flat surface take out the protective cradle containing the device *(figure 1).* 3. In the final minute of pre-oxygenation, remove the I-gel *(figure 2)* and transfer it to the palm of the same hand that is holding the protective cradle, supporting the device between the thumb and index finger *(figure 3).* Place a small bolus of a water-based lubricant, such as K-Y Jelly, on to the middle of the smooth surface of the cradle in preparation for lubrication. Do not use silicone based lubricants *(figure 4).* 4. Grasp the I-gel with the opposite (free) hand along the integral bite block and lubricate the Back, sides and front of the cuff with a thin layer of lubricant. This process may be repeated if lubrication is not adequate, but after lubrication has been completed, check that no BOLUS of lubricant remains in the bowl of the cuff or elsewhere on the device. Avoid touching the cuff of the device with your hands *(figures 5, 6, 7, and 8).* 5. Place the I-gel back into the cradle in preparation for insertion *(figure 9)*	

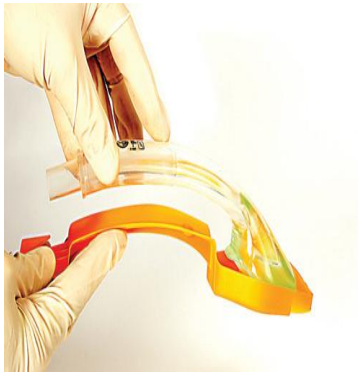
		Figure :1  *figure:2*  Figure:3  figure:4 	

		Figure:5  figure:6  Figure:7  figure:8 	

8min	demonstrate the I-gel insertion and securing technique	Figure:9  **RECOMMENDED INSERTION TECHNIQUE** A proficient user can achieve insertion of the I-gel in less than 5 seconds. 1. Grasp the lubricated I-gel firmly along the integral bite block. Position the device so that the I-gel cuff outlet is facing towards the chin of the patient *(Figure 22).* 2. The patient should be in the 'sniffing the morning air' position *(Figure 22)* with head extended and neck flexed. The chin should be gently pressed down before proceeding to insert the I-gel. 3. Introduce the leading soft tip into the mouth of the patient in a direction towards the hard palate. 4. Glide the device downwards and backwards along the hard palate with a continuous but gentle push until a definitive resistance is felt.	Teacher: Demonstrate I-gel insertions and securing techniques Learner : Listens, clarifying doubts and redemonstrate it

		WARNING: Do not apply excessive force on the device during insertion. It is not necessary to insert fingers or thumbs into the patient's mouth during the process of inserting the Device. If there is early resistance during insertion a 'jaw thrust' *(Figure 23).* 'Insertion with deep rotation' *(Figure 24)* or triple manoeuvre is recommended. 5. At this point the tip of the airway should be located into the upper oesophageal opening *(Figure 25a)* and the cuff should be located against the laryngeal framework *(Figure 25b).* The incisors should be resting on the integral bite-block *(Figure 25c).* **WARNING:** In order to avoid the possibility of the device moving up out of position prior to being secured in place, it is essential that as soon as insertion has been successfully completed, the i-gel is held in the correct position until and whilst the device is secured in place.	

Figure 23: Jaw thrus

Figure 22: Patient in the ‘sniffing the morning air’ position, Just prior to insertion

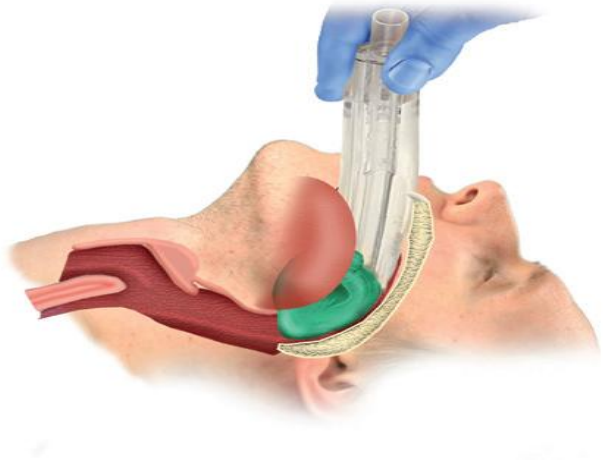


Figure 24: Deep rotation

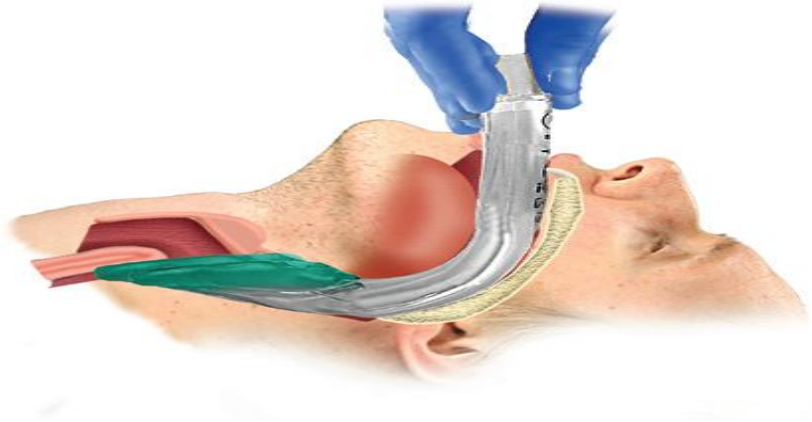


Figure 25: Correct placement of the i-gel

Figure 26: Fixing of the i-gel in place using adhesive tape

6. i-gel should be taped down from ‘maxilla to maxilla’ *(Figure 26).*

7. If required, an appropriate size nasogastric tube may be passed down the gastric channel (see section 11.0 for further details on use of the gastric channel).

The i-gel should always be used in accordance with recognised airway management Practice for supraglottic airway devices.

Important notes to the recommended insertion technique

• Sometimes a feel of ‘give-way’ is felt before the end point resistance is met. This is due to the Passage of the bowl of the i-gel through the faucial pillars (pharyngo-epiglottic folds)

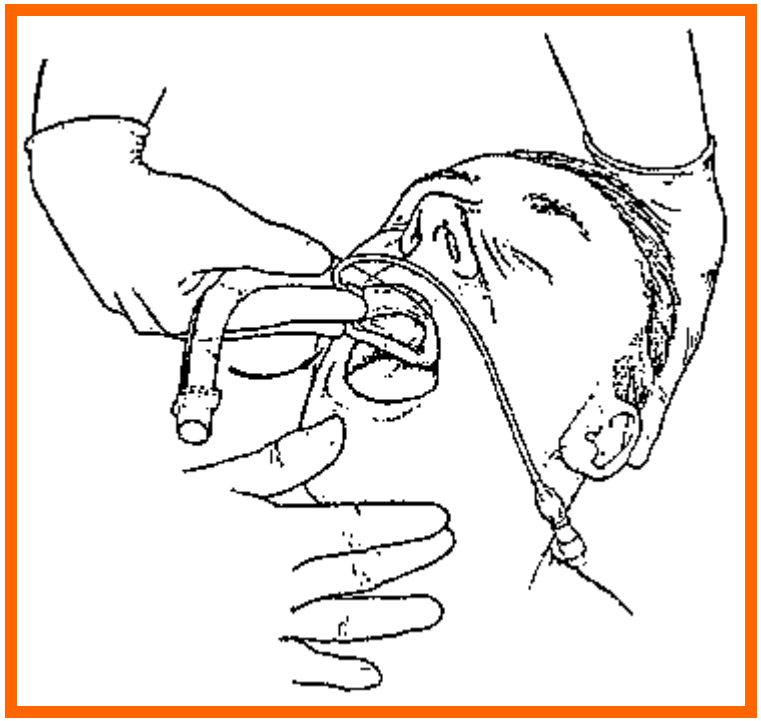
		• Once resistance is met and the teeth are located on the integral bite block, do not repeatedly Push i-gel down or apply excessive force during insertion • No more than three attempts in one patient should be attempted. **LARYNGEAL MASK AIRWAYS (LMA), INDICATIONS AND USE FOR THE PRE-HOSPITAL PROVIDER** **Objectives:** • Identify the indications, contraindications and side effects of LMA use. • Identify the equipment necessary for the placement of an LMA. • Discuss the steps necessary to prepare for LMA placement. • Discuss the methods of LMA placement. • Identify and discuss problems associated with LMA placement. **Introduction** • The LMA was invented by Dr. Archie Brain at the London Hospital, White chapel in 1981 • The LMA consists of two parts: – The mask – The tube • The LMA has proven to be very effective in the management of airway crisis	

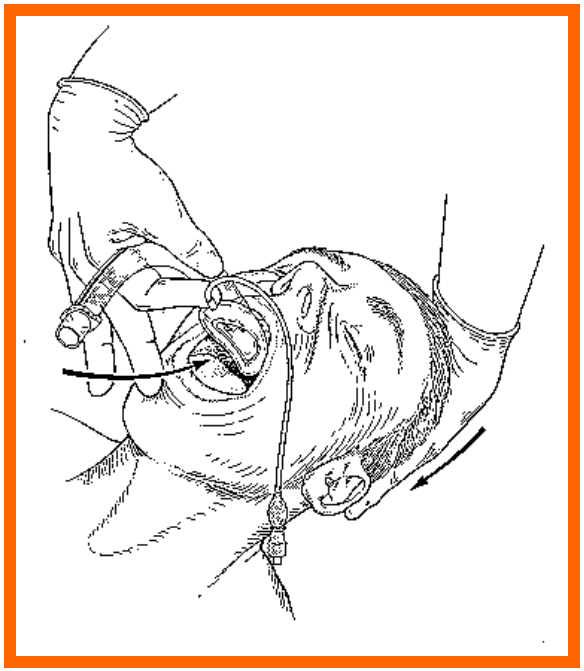
		• The LMA design: Provides an "oval seal around the laryngeal inlet" once the LMA is inserted and the cuff inflated. Once inserted, it lies at the crossroads of the digestive and respiratory tracts.	
3min	list out the indications of Laryngeal mask airways (lma),	**Indications for the use of the LMA** • Situations involving a difficult mask (BVM) fit. • May be used as a back-up device where endotracheal intubation is not successful. • May be used as a "second-last-ditch" airway where a surgical airway is the only remaining option.	Teacher : list out the indications of the laryngeal mask airway Learners: listens
3min	Enlist the contraindications of Laryngeal mask airways	**Contraindications of the LMA** • Greater than 14 to 16 weeks pregnant • Patients with multiple or massive injury • Massive thoracic injury • Massive maxillofacial trauma • Patients at risk of aspiration **Side-Effects of the LMA** • Throat soreness • Dryness of the throat and/or mucosa • Side effects due to improper placement vary based on the nature of the placement	Teacher : enlist the indications of the laryngeal mask airway Learners: listens

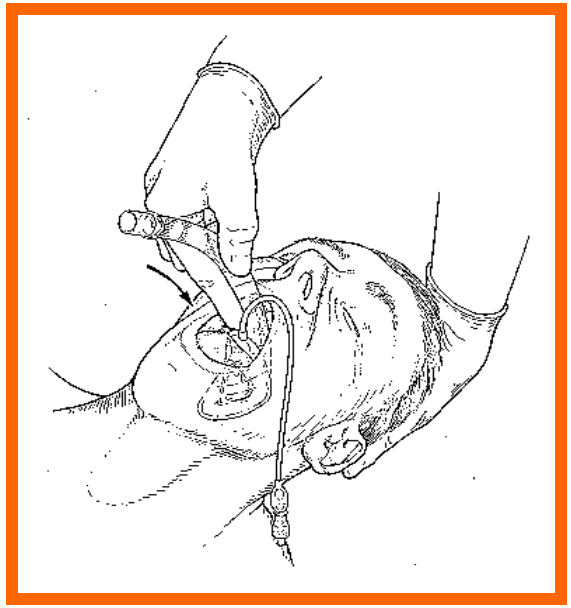
4min	Enumerate the equipment's used in Laryngeal mask airways	**Equipment for LMA Insertion** • Body Substance Isolation equipment • Appropriate size LMA • Syringe with appropriate volume for LMA cuff inflation • Water soluble lubricant • Ventilation equipment • Stethoscope • Tape or other device(s) to secure LMA	Teacher : list out the equipment used in of laryngeal mask airway Learners: listens
10min	Explain the Preparation of the LMA for Insertion	**Preparation of the LMA for Insertion** • Step 1: Size selection • Step 2: Examination of the LMA • Step 3: Check deflation and inflation of the cuff • Step 4: Lubrication of the LMA • Step 5: Position the Airway **Step 1: Size Selection** • Verify that the size of the LMA is correct for the patient • Recommended Size guidelines: – Size 1: under 5 kg – Size 1.5: 5 to 10 kg – Size 2: 10 to 20 kg	Teacher : explain the preparation of laryngeal mask airway Learners: listens

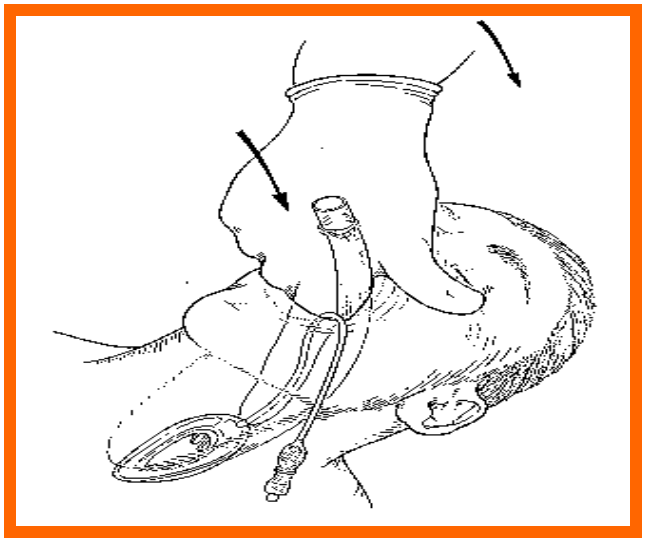
		– Size 2.5: 20 to 30 kg – Size 3: 30 kg to small adult – Size 4: adult – Size 5: Large adult/poor seal with size 4 **Step 2: Examination of the LMA** • Visually inspect the LMA cuff for tears or other abnormalities • Inspect the tube to ensure that it is free of blockage or loose particles • Deflate the cuff to ensure that it will maintain a vacuum • Inflate the cuff to ensure that it does not leak **Step 3: Deflation and Inflation of the LMA** • Slowly deflate the cuff to form a smooth flat wedge shape which will pass easily around the back of the tongue and behind the epiglottis. • During inflation the maximum air in cuff should not exceed: – Size 1: 4 ml – Size 1.5: 7 ml – Size 2: 10 ml – Size 2.5: 14 ml – Size 3: 20 ml – Size 4: 30 ml – Size 5: 40 ml	

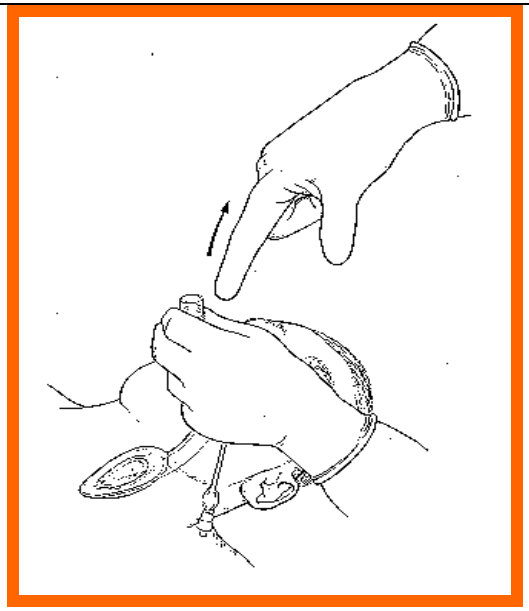
		Step 4: Lubrication of the LMA • Use a water soluble lubricant to lubricate the LMA • Only lubricate the LMA just prior to insertion • Lubricate the back of the mask thoroughly Important Notice: • Avoid excessive amounts of lubricant – on the anterior surface of the cuff or – in the bowl of the mask. • Inhalation of the lubricant following placement may result in coughing or obstruction. **Step 5: Positioning of the Airway** • Extend the head and flex the neck • Avoid LMA fold over: – Assistant pulls the lower jaw downwards. – Visualize the posterior oral airway. – Ensure that the LMA is not folding over in the oral cavity as it is inserted.	

10 min	demonstrate how to LMA Insertion Technique	**LMA Insertion Technique** **LMA Insertion** **Step 1** • Grasp the LMA by the tube, holding it like a pen as near as possible to the mask end. • Place the tip of the LMA against the inner surface of the patient's upper teeth 	Teacher: Demonstrate LMA insertions and securing techniques Learner : Listens, clarifying doubts and redemonstrate it

		Step 2 • Under direct vision: – Press the mask tip upwards against the hard palate to flatten it out. – Using the index finger, keep pressing upwards as you advance the mask into the pharynx to ensure the tip remains flattened and avoids the tongue. 	

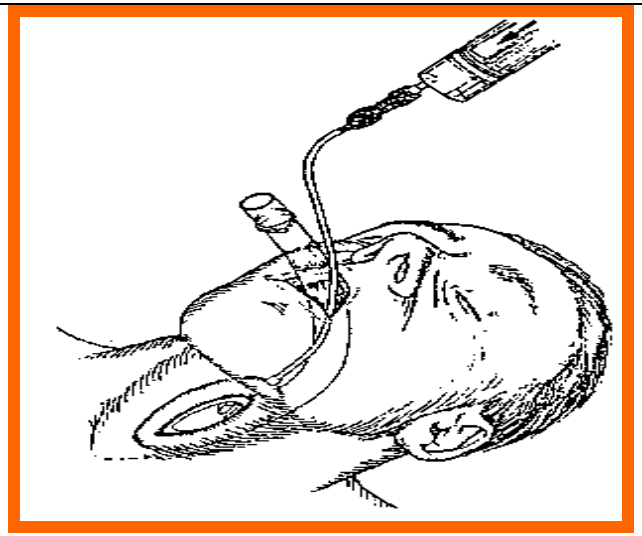
		Step 3 • Keep the neck flexed and head extended: – Press the mask into the posterior pharyngeal wall using the index finger.  **Step 4** • Continue pushing with your index finger. – Guide the mask downward into position.	

		 **Step 5** • Grasp the tube firmly with the other hand – then withdraw your index finger from the pharynx. – Press gently downward with your other hand to ensure the mask is fully inserted.	



Step 6

- Inflate the mask with the recommended volume of air.
- Do not over-inflate the LMA.
- Do not touch the LMA tube while it is being inflated unless the position is obviously unstable.
  - Normally the mask should be allowed to rise up slightly out of the hypo pharynx as it is inflated to find its correct position.



Verify Placement of the LMA

- Connect the LMA to a Bag-Valve Mask device or low pressure ventilator
- Ventilate the patient while confirming equal breath sounds over both lungs in all fields and the absence of ventilator sounds over the epigastriaum

Securing the LMA

- Insert a bite-block or roll of gauze to prevent occlusion of the tube should the patient bite down.
- Now the LMA can be secured utilizing the same techniques as those employed in the securing of an endotracheal tube.

		Problems with LMA Insertion • Failure to press the deflated mask up against the hard palate or inadequate lubrication or deflation can cause the mask tip to fold back on itself Once the mask tip has started to fold over, this may progress, pushing the epiglottis into its down-folded position causing mechanical obstruction • If the mask tip is deflated forward it can push down the epiglottis causing obstruction • If the mask is inadequately deflated it may either – push down the epiglottis – Penetrate the glottis. **Summary** • Recent studies suggest that the LMA is an airway device that paramedics "adapt to rapidly". • Paramedics have proven themselves very successful in the placement of the LMA. • Though endotracheal intubation remains the definitive technique for securing an airway in the pre hospital setting, it is believed that the LMA may help in a small percentage of patients who prove to be difficult to incubate endotracheal.	

ANNEXURE - F

CERTIFICATE OF VALIDATION

This is to certify that the tool developed by **Mr.Sanjai Kumar.A,** Final Year M.Sc Nursing student of Sri Gokulam College of Nursing, Salem (Affiliated to The Tamil Nadu Dr.M.G.R. Medical University, Chennai) is validated and can proceed with this tool and content for the main study entitled **"A quantitative evaluative study was conducted to determine the effectiveness of the video assisted teaching programme on Knowledge and Skill regarding Successful Ventilation with I-gel and Laryngeal Mask Airway among Paramedical Students at selected area, Salem".**

ANNEXURE - G

LIST OF EXPERTS

1. Dr. SENTHIL KUMARAN, MD,DIP .(A & E)

Consultant and Incharge ,

Department of Critical Care and emergency medicine,

Sri Gokulam Hospital,

Salem.

2. Mrs.PUSHPALATHA, Ph.D (N).,

HOD, Medical Surgical Department,

Shanmuga College of Nursing,

Salem.

3. Mr.SHASIKUMAR, M.Sc (N).,

Associate Professor ,Medical Surgical Department,

Shri B M Patil college of Nursing,

Bijapur.

4. Mrs. LAKSHMI PRABHA, M.Sc (N).,

Associate Professor,

Medical Surgical Department,

Vinayaka Mission College of Nursing,

Salem.

5 . Mrs. JISHA, M.Sc (N).,

Associate Professor,

Medical Surgical Department,

Medical Trust College of Nursing,

Kerala.

6. Ms. SHEEJA, M.Sc(N).,

Associate Professor,

Shanmuga College of Nursing,

Salem.

CERTIFICATE OF VALIDATION

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Signature with Date

Name: Dr. Senthil Kumaran, MD,DIP .(A & E)
Designation: Consultant and Incharge ,
Department of Critical Care and emergency medicine,
Sri Gokulam Hospital, Salem.

CERTIFICATE OF VALIDATION

This is to certify that the tool developed by **Mr.Sanjai Kumar.A,** Final Year M.Sc Nursing student of Sri Gokulam College of Nursing, Salem (Affiliated to The Tamil Nadu Dr.M.G.R. Medical University, Chennai) is validated and can proceed with this tool and content for the main study entitled **"A quantitative evaluative study was conducted to determine the effectiveness of the video assisted teaching programme on Knowledge and Skill regarding Successful Ventilation with I-gel and Laryngeal Mask Airway among Paramedical Students at selected colleges, Salem".**

K S Pushpalatha 6/7/13
Signature with Date

Name: Mrs.Pushpalatha, Ph.D(N).,
Designation: HOD, Medical Surgical Nursing Dept.
Shanmuga College of Nursing, Salem.

CERTIFICATE OF VALIDATION

This is to certify that the tool developed by **Mr.Sanjai Kumar.A,** Final Year M.Sc Nursing student of Sri Gokulam College of Nursing, Salem (Affiliated to The Tamil Nadu Dr.M.G.R. Medical University, Chennai) is validated and can proceed with this tool and content for the main study entitled **"A quantitative evaluative study was conducted to determine the effectiveness of the video assisted teaching programme on Knowledge and Skill regarding Successful Ventilation with I-gel and Laryngeal Mask Airway among Paramedical Students at selected colleges, Salem".**

Signature with Date

Name: Mr.Shasikumar, M.Sc(N).,

Designation: Associate Professor,

Medical Surgical Nursing Department

Shri B.M. Patil College of Nursing, Bijapur.

CERTIFICATE OF VALIDATION

This is to certify that the tool developed by **Mr.Sanjai Kumar.A,** Final Year M.Sc Nursing student of Sri Gokulam College of Nursing, Salem (Affiliated to The Tamil Nadu Dr.M.G.R. Medical University, Chennai) is validated and can proceed with this tool and content for the main study entitled **"A quantitative evaluative study was conducted to determine the effectiveness of the video assisted teaching programme on Knowledge and Skill regarding Successful Ventilation with I-gel and Laryngeal Mask Airway among Paramedical Students at selected colleges, Salem".**

15/7/13

Signature with Date

Name: Mrs.Lakshmi Prabha, M.Sc(N).,
Designation: Associate Professor,
Medical Surgical Nursing Department
Vinayaka Mission College of Nursing, Salem.

CERTIFICATE OF VALIDATION

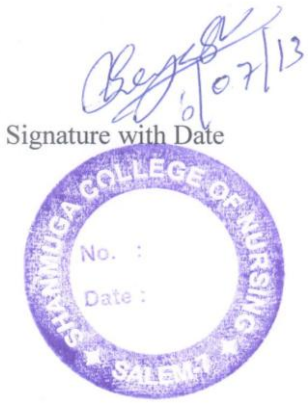
This is to certify that the tool developed by **Mr.Sanjai Kumar.A,** Final Year M.Sc Nursing student of Sri Gokulam College of Nursing, Salem (Affiliated to The Tamil Nadu Dr.M.G.R. Medical University, Chennai) is validated and can proceed with this tool and content for the main study entitled **"A quantitative evaluative study was conducted to determine the effectiveness of the video assisted teaching programme on Knowledge and Skill regarding Successful Ventilation with I-gel and Laryngeal Mask Airway among Paramedical Students at selected colleges, Salem".**

Jisha 11/09/13
Signature with Date

Name: Mrs. Jisha, M.Sc(N).,
Designation: Associate Professor,
Medical Surgical Nursing Department
Medial Trust College of Nursing, Kerala.

CERTIFICATE OF VALIDATION

This is to certify that the tool developed by **Mr.Sanjai Kumar.A,** Final Year M.Sc Nursing student of Sri Gokulam College of Nursing, Salem (Affiliated to The Tamil Nadu Dr.M.G.R. Medical University, Chennai) is validated and can proceed with this tool and content for the main study entitled **"A quantitative evaluative study was conducted to determine the effectiveness of the video assisted teaching programme on Knowledge and Skill regarding Successful Ventilation with I-gel and Laryngeal Mask Airway among Paramedical Students at selected colleges, Salem".**



Name: Ms.Sheeja, M.Sc(N).,
Designation: Associate Professor,
Medical Surgical Nursing Department
Shanmuga College of Nursing, Bijapur.

ANNEXURE – H

CERTIFICATE OF EDITING

TO WHOM IT MAY CONCERN:

Certified that the dissertation paper titled **"A quantitative evaluative study was conducted to determine the effectiveness of the video assisted teaching programme on Knowledge and Skill regarding Successful Ventilation with I-gel and Laryngeal Mask Airway among Paramedical Students at selected colleges, Salem",** by **Mr.Sanjai Kumar.A,** has been checked for accuracy and correctness of English language usage, and that the language used in presenting the paper is lucid, unambiguous, free of grammatical / spelling errors and apt for the purpose.

Signature with Date

PRINCIPAL,
Shri Amrita Teacher Training Institute
KUNICHI - 635 601
Tirupattur Tk. Vellore Dt

ANNEXURE – I

PHOTOS

Investigator collecting the pretest knowledge through questionnaires

Investigator assessing the pretest skill through observation checklist

Investigator administering video assisted programme on I-gel and laryngeal mask airway

Investigator performing the demonstration procedure through I-gel and laryngeal mask airway

Investigator assessing the posttest knowledge through questionnaires

Investigator assessing the posttest skill through observation checklist

CONSENT FOR PARTICIPATING IN THE STUDY

I Mr./Ms……..is willing to participate in the research study conducted by Mr.Sanjaikumar.A, Final year M.Sc (Nursing) student of Sri Gokulam College of Nursing, Salem. He explains the intervention using video structured teaching programme and demonstration which will be useful for professional studies.

Place: Signature of the Student:

Date :

Name:

s